



Paramedicine in Ontario:
Consideration of the Application for the Regulation of Paramedics
under the *Regulated Health Professions Act, 1991*

Volume 2

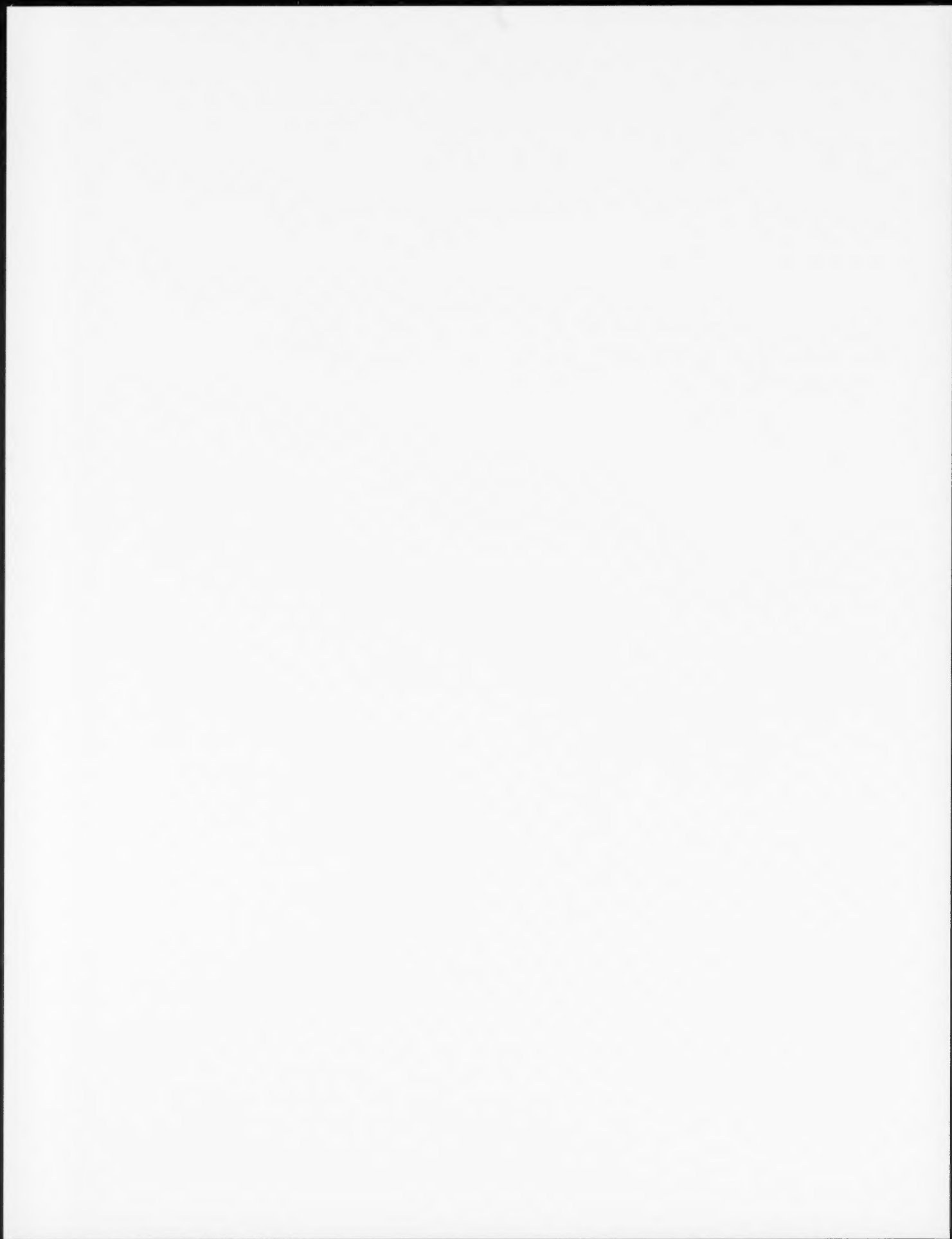
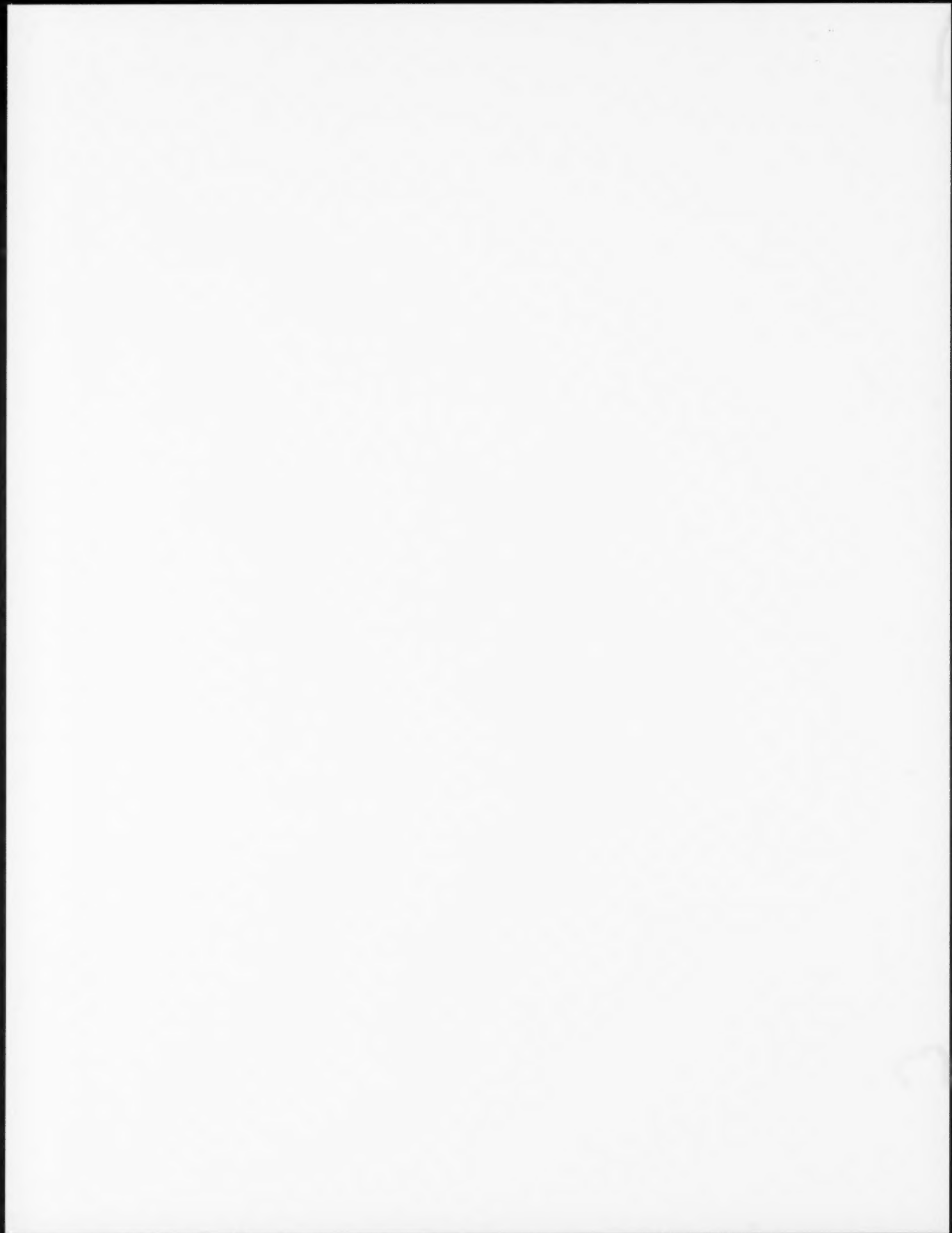


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SECTION I

Regulation of a New Health Profession under the
Regulated Health Professions Act (RHPA), 1991:

HPRAC Criteria and Process

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1. About the Health Professions Regulatory Advisory Council (HPRAC)

The Health Professions Regulatory Advisory Council (HPRAC) is established under the *Regulated Health Professions Act, 1991 (RHPA)*, with a statutory duty to advise the Minister on health professions regulatory matters in Ontario. This includes providing advice to the Minister on:

- Whether unregulated health professions should be regulated;
- Whether regulated health professions should no longer be regulated;
- Amendments to the *Regulated Health Professions Act (RHPA)*;
- Amendments to a health profession's Act or a regulation under any of those Acts;
- Matters concerning the quality assurance programs and patient relations programs undertaken by health colleges; and,
- Any matter the Minister refers to HPRAC relating to the regulation of the health professions.

The Minister of Health and Long-Term Care relies on recommendations from HPRAC as an independent source of evidence-informed advice in the formulation of policy in relation to health professional regulation in Ontario. In providing its advice and preparing its recommendations, HPRAC is independent of the Minister of Health and Long-Term Care, the Ministry of Health and Long-Term Care, the regulated health colleges, regulated health professional and provider associations, and stakeholders who have an interest in issues on which it provides advice. This ensures that HPRAC is free from constraining alliances and conflict of interest, and is able to carry out its activities in a fair and unbiased manner.

When considering health professions regulatory matters, HPRAC ascribes to the following overriding principles:¹

- Meeting public expectations for improved access to high quality and safe care;
- Supporting inter-professional care and optimizing the contribution of all health professionals;
- Applying standards for the regulation of health professionals;
- Ensuring a shared accountability agenda that encourages and values collaboration and trust;
- Using resources efficiently;
- Sustaining the health care system; and,
- Maintaining self-regulation.

HPRAC presents its recommendations in a report to the Minister of Health and Long-Term Care for consideration. This report is confidential until released by the Minister. As per the *RHPA*, HPRAC recommendations are advisory only. The Minister is not bound to accept HPRAC's advice. The release of an HPRAC report and any follow-up action are at the discretion of the Minister. Should the minister choose to accept HPRAC's advice, the Ministry of Health and Long-Term Care is responsible for implementation based on the direction of the government.

Please visit www.hprac.org for more information about the HPRAC's mandate and role.

¹ Health Professions Regulatory Advisory Council. (2008). *Critical links: transforming and supporting patient care*. Toronto: Author. pp. 2-3.

2. The Application of the Criteria

The following guidelines are intended to assist a profession in compiling its application. A new profession requesting regulation under the *RHPA* will be assessed according to the following methodology. HPRAC will use a two part assessment as the means by which it will decide whether to recommend a health profession for regulation. In the first part of the assessment (primary criterion), HPRAC will determine whether the applicant meets the 'risk of harm threshold' to be considered for regulation under the *RHPA*. This part is designed to ensure that the assessment retains a focus on 'risk of harm'. In the second part (secondary criteria), HPRAC will determine whether it should recommend regulating a profession that it has determined to be posing a risk of harm to the public. The secondary criteria also aim to assist in determining whether an application meets the overriding principles outlined in p. 1.

All proposals for regulating new professions under the *RHPA* will be assessed against the following criteria. Please note that, as per the *RHPA*, HPRAC will assess a profession's suitability for regulation only on the request of the Minister of Health and Long-Term Care. In determining whether the primary and secondary criteria have been met, HPRAC relies on relevant, verifiable evidence from applicants.² As such, it is incumbent upon the applicant to present such evidence related to both the primary and secondary criteria outlined below. The HPRAC criteria for regulating a new profession will be continuously updated to keep pace with the evolving health professions regulatory and health system landscape in Ontario.

Primary Criterion:

The primary criterion assesses whether the health profession seeking regulation under the *RHPA* poses a risk of harm to the health and safety of the public, and it is otherwise in the public interest that the particular profession be regulated under the *RHPA*. The applicant must demonstrate with evidence that there is a risk of harm to the public. As such, applicants from new professions seeking regulation under the *RHPA* must meet the risk of harm threshold. In order to meet the risk of harm threshold, the applicants must meet *all* three conditions below and demonstrate with relevant, verifiable evidence that:

- the profession is involved in duties, procedures, interventions and/or activities with the significant potential for physical or mental harm to patients/clients, including instances where the profession delivers services under direct or indirect supervision by another regulated or unregulated health professional;
- the profession is engaged in making decisions or judgment that can have a significant impact on patients'/clients' physical or mental health, including instances where the profession delivers services under direct or indirect supervision by another regulated or unregulated health professional; and,
- there is a significant potential of risk of harm occurring within the professional duties and activities.

Applicants that meet the primary criterion with relevant, verifiable evidence will then be assessed on the extent to which they meet the secondary criteria.

² Please see Appendix A for a description of evidence. 'Relevant evidence' in this context means information that is able to make the existence of any fact that is of consequence to the determination of decision or outcome more probable or less probable than it would be without the evidence.

Secondary Criteria:

Once the primary criteria are met with relevant, verifiable evidence, HPRAC will apply the secondary criteria to measure the appropriateness of regulation under the *RHPA*. The secondary criteria:

- have equal weight;
- focus on the profession specific factors and assess whether regulation under the *RHPA* is, in fact, the most appropriate and effective means to protect the public;
- provide applicants with an understanding of where the requirements for statutory regulation lie, and in doing so, give an indication of the issues with which HPRAC is concerned;
- are intended to identify other salient factors that need to be addressed to ascertain whether regulation under the *RHPA* is in the public interest; and,
- are not intended to provide a barrier for a profession that meets the primary criteria to prevent regulation under the *RHPA*.

HPRAC may not necessarily decide to recommend against regulation of a profession if its application does not satisfy all the secondary criteria. However, HPRAC strongly recommends that applicants make every effort to provide all relevant evidence to support their applications to allow the Advisory Council to make evidence-informed decisions.

3. The Criteria for Regulating a New Profession under the RHPA

To determine whether a health profession should be regulated under the *RHPA*, HPRAC will apply the primary and secondary criteria outlined below. The primary criterion must be met in order to be considered for regulation under the *RHPA*. If the applicant meets the primary criteria, it will then be assessed on the extent to which it meets the secondary criteria. The secondary criteria will each have equal weight. The secondary criteria have been organized by the following themes: professional autonomy; competency and scope of practice; mechanisms of regulation and economic impact; and health system impact.

Primary Criterion

Primary Criterion: Risk of Harm

The fundamental principle with respect to health professional regulation under the *RHPA* is the protection of the public from harm in the delivery of health care, premised on the fact that it is in the public interest to do so. As such, it is vital to demonstrate that the health profession seeking regulation under the *RHPA* poses a risk of harm to the health and safety of the public. The term risk of harm refers to actions where a substantial risk of physical or mental harm may result from the practice of the profession.³ This criterion is intended to provide a clear articulation of the degree of harm posed by the profession to the health and safety of the public. In addressing the risk of harm in this context, the applicant is asked to identify the risks associated with the practice of the profession concerned, as distinct from risks inherent in the area of health care within which the profession operates.

Information required:

1. Provide a general description of services provided by the practitioners of the profession.
2. Specify and describe the diagnostic modalities employed by practitioners of the profession.
3. Specify areas of practice, diagnosis, treatment, interventions, modalities, and services:
 - a) Performed exclusively by practitioners of the profession;
 - b) Also performed by other regulated health professions;
 - c) Also performed by other unregulated health professions;
 - d) Performed in conjunction with other regulated health professions, with specific examples and information on the following: *Include references to, and copies of, scientific literature and other published information*
 - the nature and extent of any overlaps in practice with other health professions; and
 - diagnostic and treatment modalities and services provided by the practitioners. Demonstrate how they may differ from other health professions.
4. Specify which diagnoses/assessments, interventions, substances, treatment modalities, and services provided by the profession entail a risk of harm to patients/clients. *Include references to, and copies of, scientific literature and*

³ The harm clause in the *RHPA* prohibits an individual from treating or advising someone about his/her health in circumstances in which it is reasonable to assume that serious bodily harm may cause. The purpose is to capture dangerous actions that may not be specifically prohibited by the controlled acts, particularly to capture unforeseeable risky activities. Referring to the 2006 HPRAC report entitled "Regulation of Health professions in Ontario: New Directions" at pp. 55-56, citing *R. v. McCraw*, [1990] 3 S.C.R. 72, Steinecke notes that the word "bodily" replaces the word "physical" in order to capture mental harm," see Steinecke, R. (2010). *A complete guide to the RHPA*. Aurora: Canada Law Book, 11:20.30

other published information.

5. Explain the extent to which public safety is at risk because the profession remains unregulated. In particular, please respond to the following questions:
 - a) Explain the nature and severity of the risk of harm to patients/clients. *Include references to, and copies of, scientific literature and other published information.*
 - b) Provide examples of patients/clients being harmed by a practitioner who performed services incompetently or inappropriately. *Include references to, and copies of, scientific literature and other published information.*
 - c) Where possible, provide the rate and nature of complaints of harm received by professional associations and related organizations in the past 10 years.
 - d) Describe any existing voluntary disciplinary or investigations process, including the outcomes of these processes. Where possible, provide supporting documentation to illustrate these examples.
6. Explain the anticipated effect of regulation on the current risk of harm presented by the profession?
7. Where the profession is supervised by regulated and/or unregulated health professionals, what direct and indirect mechanisms are in place to ensure the delivery of safe care, including quality of work performance?
8. What proportion of practitioners in the profession concerned performs duties without direct and indirect supervision?
9. How do recent advances in treatment and technology contribute to potential risks of harm posed by the profession?
10. Explain the profession's experience with liability/insurance protection, including the current percentage of practitioners of the profession who carry liability insurance coverage. What is the position of professional associations and related organizations on this matter?
11. Describe any process undertaken to determine the public need for regulation and the response/results achieved.
12. What professional titles should be restricted to members of the profession? Why?
13. Identify any known circumstance(s) under which a member of the profession should be required to refer a person to another health profession?

Note: Please make sure to include evidence to support your answers.

Secondary Criteria

Secondary Criteria

Criterion: Professional Autonomy

The central element of professional autonomy is the assurance that individual professionals have the freedom to exercise their professional judgment in the care and treatment of their patients. This criterion is intended to assess the degree to which the profession is able to exercise professional judgement autonomously in the delivery of care.

Information required:

1. To what extent do members of the profession practice autonomously?
2. Do some members of the profession enjoy greater autonomy than others? If so, describe the factors that most influence a professional's degree of autonomy?
3. What measures currently exist to ensure accountability of practitioners of the profession concerned?
4. Which particular methods, procedures, tasks or services, if any, are subject to a greater or lesser degree of accountability?
5. How would self-regulation affect the current model of accountability? How would the public interest be served by this change?
6. Are members of the profession currently performing controlled acts under the delegation of regulated professionals? How would the public interest be served by this change?

Note: Please make sure to include evidence to support your answers.

Secondary Criteria

Criterion: Educational Requirements for Entry to Practice

The applicant is asked to demonstrate whether the profession has defined the educational routes to the profession. The route can begin with completion of studies at an independently accredited educational institution or a post-secondary program offered by a recognized educational institution. These institutions will prepare candidates to meet externally validated entry qualifications. This criterion is intended to assess whether the profession possesses skills and competencies necessary to deliver safe and competent care on entry.

Information required:

1. Describe the educational and clinical/practical training programs available in Ontario. Specify theoretical and clinical/practical experiences.
 - a) Describe how the profession's body of knowledge and approach to diagnostic/treatment modalities and services are taught in this program.
 - b) Relate the education and training to the diagnostic/assessment abilities, treatment modalities and services.
 - c) What percentage of the practitioners of the profession is educated and trained in Ontario?

- d) What percentage of the members of the professional association is educated and trained in Ontario?
- e) What percentage of these programs is accredited by recognized provincial and/or national accreditation bodies?
- 2. Identify and describe the Ontario and Canadian academic education and clinical/practical training programs available to persons seeking to enter this profession. Specify theoretical and clinical/practical experiences.
 - a) Describe how the profession's body of knowledge and approach to diagnostic/treatment modalities and services are taught in these institutions.
 - b) Relate the education and training to the diagnostic/assessment abilities, treatment modalities and services.
- 3. Identify and explain the major differences between programs in different jurisdictions.
- 4. What academic credentials are required by the following organizations:
 - a) the professional association, as a condition of membership;
 - b) employers; or
 - c) other Canadian jurisdictions, as a condition of registration with a regulating body.
- 5. What need, if any, has been identified for varying levels of registration?

Note: Please make sure to include evidence to support your answers.

Secondary Criteria

Criterion: Body of Knowledge and Scope of Practice

This criterion assumes an intersection between body of knowledge and scope of practice. The body of knowledge refers to the extent to which practitioners must call upon a distinct set of concepts, terms and activities in the practice of the profession (i.e., what the profession does and how the profession practices). The scope of practice refers to the rules, regulations, and boundaries within which a qualified health professional with appropriate training, knowledge, and experience may practice in an area of health care. This criterion is intended to assess whether there is a body of knowledge that can offer the basis for the profession's scope of practice.

Information required:

1. Describe the core body of knowledge of the profession. Include references to, and copies of, scientific literature and other published information.
2. Are there professions currently regulated with whom the applicant occupation's body of knowledge overlaps? Include evidence to support your answer.
3. Does the profession concerned subscribe to evidence-based practice? If so, please provide examples of how treatment strategies, interventions, modalities, and services are based on evidence. Please include evidence to support your answer. *Suitable evidence would include scientific literature and other published information.*
4. Does the profession concerned practice based on evidence of efficacy? If so, please provide examples of how treatment strategies, interventions, modalities, and services are based on efficacy. Please include evidence to support your answer. *Suitable evidence would include scientific literature and other published information.*
5. Provide a proposed scope of practice for the profession. Explain how the scope of practice relates to the body of knowledge described above. Include references to, and copies of, scientific literature and other published information.
6. To what extent does the professional association or other organizations set standards of practice for diagnostic/treatment modalities and services based on the identified body of knowledge? How are these standards enforced? Provide a copy of the standards of practice and ethical guidelines.
7. Does the applicant's profession require commitment to continuous professional development? If so, please provide written details of existing continuous professional development programs.

For the following question, provide the rationale for your position; please include items such as the body of knowledge, educational preparation and standards of practice. Also include references to, and copies of, scientific literature and other published information providing evidence for your argument and rationale.

8. With respect to the proposed scope of practice statement:
 - a) What controlled acts (if any) should be authorized to the members of the profession?
 - b) What specific acts (if any) should practitioners be authorized to delegate to others? Specify the circumstances where members of the profession may choose to delegate a controlled act.
 - c) What diagnostic/treatment modalities and services should members of the profession be authorized to perform?
 - d) What limitations of practice, if any, should be imposed on members of the profession? Which acts, if any, related to the field of care of the profession should not be authorized to the profession? What diagnostic/assessment abilities, treatment modalities and services are not part of the scope of practice for members of the profession?
 - e) If a new controlled act is being requested, describe the degree to which this act would be exclusive to the profession. To what extent may the proposed act be shared with other professions? Where opportunities for sharing exist, please describe any consultation that has occurred with the affected stakeholders.
 - f) Please explain how the proposed scope of practice serves the public interest and provides adequate public protection without unduly restricting the public's choice of health care providers.
 - g) Are there currently regulated health professions with whom the proposed scope of practice overlaps?

Note: Please make sure to include evidence to support your answers.

Secondary Criteria

Criterion: Economic Impact of Regulation

The applicant must demonstrate an understanding and appreciation of the cost of regulation on the profession, the public and the health care system. The costs and benefits of the preferred regulatory mechanism must be outlined. The applicant is required to show that the practitioners of the profession are able to support the full costs and responsibilities of regulation. This criterion intends to assess the sustainability and viability of regulating the profession concerned under the *RHPA*.

Information required:

1. Health professions regulatory bodies are required to provide a range of mandatory functions under the *RHPA*, including:
 - a) establishing requirements for entry to practice
 - b) developing and promoting practice standards
 - c) administering quality assurance programs
 - d) enforcing standards of practice and conduct

In addition, they are to support the regulation of professions in the public interest by:

- a) participating in the legislative/regulatory processes
- b) collecting and sharing statistical information about members

As part of the proposal, the applicant must present a viable business plan to demonstrate the profession's ability to support these mandatory functions. The business plan should include estimated financial resources required to provide these functions, and the applicant profession's ability to generate necessary financial resources through registration

and ancillary fees.

2. Statutory regulation of health professions may have economic and financial implications. Describe the predicted effect of regulation on the profession as it relates to:
 - a) education and training programs;
 - b) health care system;
 - c) continuous quality improvement;
 - d) access to care; and,
 - e) service efficiency and costs.
3. Explain how the preferred type of regulatory body will be financially self-sustainable. Explain how members of the profession will be able to assume the operational functions and responsibilities, including the expense of administering their own College (including legal costs, etc.).
4. Explain the costs employers may incur to ensure they have additional systems in place for the employment of the regulated profession.
5. Address the cost of the professionals' time taken to comply with regulatory requirements which may take them away from their primary purpose of providing care.

Note: Please make sure to include evidence to support your answers.

Secondary Criteria

Criterion: Regulatory Mechanisms

The applicant is asked to demonstrate that regulation under the *RHPA* is the most appropriate means to regulate the profession. The applicant is asked to explore potential statutory and non-statutory regulatory regimes which could be appropriate and merit consideration. In other words, the applicant is required to demonstrate why it prefers a particular type of regulatory mechanism over others. This criterion is intended to provide information to ascertain the most appropriate way to regulate the health profession concerned.

Information required:

1. Are practitioners of this profession subject to another regulatory mechanism? If so, please provide details.
2. Does the profession believe that it should be regulated under its own College? If so, describe the reasons why the applicant prefers a self-regulatory model over other models (e.g., voluntary self-regulation, licensing, accreditation, etc.).
3. Has the profession considered seeking regulation within an existing regulatory college? Describe the conclusions and outcomes of this discussion.
4. Has the profession considered partnering with likeminded unregulated professions working in a similar field and who may also be seeking regulation? Describe the process and conclusions of this discussion.
5. Should statutory self-regulation not be found to be appropriate for the profession, what alternate forms of regulation or governance may be considered (e.g., voluntary self-regulation, licensing, accreditation, etc.)? How might other applicable laws or existing standards meet the profession's needs?
6. Where possible, provide copies of legislation regulating this profession in other jurisdictions, including the statutory scope of practice.

Note: Please make sure to include evidence to support your answers.

Secondary Criteria

Criterion: Leadership's Ability to Favour the Public Interest and Membership Support and Willingness of the Profession to be regulated

The applicant must demonstrate that the profession's leadership has shown it will distinguish between the public interest and the profession's self-interest. Regulatory colleges are mandated to privilege the former over the latter. In addition, the applicant must also demonstrate that the members of the profession support regulation with sufficient numbers and commitment, such that widespread compliance with regulation is likely. Members of a profession requesting regulation must also recognize that regulation will cost them money, time and effort. The applicant is asked to show that the practitioners of the profession are sufficiently numerous to support and fund, on an ongoing basis, the requisite number of competent personnel to enable the regulatory body to continue to discharge its functions effectively. This criterion intends to assess whether the leaders and members are able and committed to support the public interest mandate of regulation.

Information required:

1. Please provide evidence of the profession's commitment to the public interest (e.g. communications, policies or procedures of the professional association).
2. Does a complaints and disciplinary procedure currently exist for the profession? Please describe the process, including the length of time the program has been in existence, as well as evidence of the degree to which it has been effective in identifying and correcting incidents of sub-standard care or other infractions?
3. Where available, provide the profession's current Code of Conduct.
4. Is a proactive, self-initiated complaints process available to the profession?
5. Do the members of the profession/association want self-regulation, and are they willing to provide financial resources, time and effort required for self-regulation? Please describe any consultation process undertaken and the response/results achieved. Please include the consultation methodology, including sample size, selection methodology, etc.
6. Do related organizations (e.g., associations and regulatory colleges representing practitioners in similar or related areas of health care) agree with the need for regulation of this profession? Document the discussions and outcomes from any consultation process undertaken on this topic.
7. How many persons practice this profession in Ontario? How many practitioners belong to an association? Please provide independently assessed and verified figures.
8. Are practitioners who do not belong to the professional body or bodies also supportive of the application? Where possible please provide independently assessed and verified figures.
9. What actions have been taken to align the profession with an established health professions regulatory College?
10. Explain the proposed fee structure for College members.

Note: Please make sure to include evidence to support your answers.

Secondary Criteria

Criterion: Health System Impact

The applicant is asked to demonstrate the extent to which the regulation of the profession concerned would produce positive health system impacts in relation to inter-professional collaboration, labor mobility, access to care, health outcomes, and productivity. This criterion is intended to assess the overall impact of regulating the profession to the broader health care system in Ontario.

a. Inter-professional Collaboration: Inter-professional collaboration in health care is now considered a high priority, as concerns about patient safety, health and human resources shortages, and effective and efficient care have reached significance. The applicant is asked to demonstrate the profession's willingness and capacity to effectively collaborate with other professions in a client-centered model of care. This criterion attempts to assess to what degree the regulation of the profession concerned would support and sustain the collaborative delivery of health care.

Information required:

1. Does the profession concerned possess necessary competencies to support and sustain inter-professional collaboration?
2. What public statements, if any, have been made by the profession regarding inter-professional collaboration? Please provide any statements or policy papers to this effect.
3. List the professional groups with whom the profession collaborates most often. For each profession, describe the typical working relationship, including decision-making processes, reporting structures and examples where mutual support benefits the patient/client.
4. Provide examples of initiatives by the profession to increase collaboration with other professional groups. Examples may include:
 - a) internal policies encouraging collaboration;
 - b) entry to practice competency requirements;
 - c) inter-professional training and education; or,
 - d) shared standards of practice.
5. What overall effect will self-regulation have on the profession with respect to inter-professional collaboration?

Note: Please make sure to include evidence to support your answers.

b. Labour Mobility: The effect of national labour mobility legislation on regulated health professions includes freer movement of care providers between Canadian jurisdictions. Given possible implications for mobility stemming from regulation, the applicant is asked to demonstrate an appreciation for the risks and benefits of increased labour mobility, and provide evidence of strategies to handle any challenges and opportunities. This criterion attempts to assess the impact of regulation on the Labour mobility in the health sector and supply and demand of practitioners concerned.

Information required:

1. Is the profession currently subject to national labour mobility legislation in other jurisdictions? If so, explain the potential implications of out-of-province members registering to practice in Ontario.
2. Does a national entry to practice standard, examination scheme or competencies exist for the profession?
3. Where members in other Canadian jurisdictions are authorized to perform procedures and tasks not currently sought by the applicant, how does the applicant intend to resolve inconsistencies?

4. What would be the overall impact of regulation on supply and demand of health professionals concerned?

Note: Please make sure to include evidence to support your answers.

c. Access to Care: Given the importance of access to care in eliminating health disparities as well as facilitating the prevention of disease and the promotion of health, the applicant is asked to demonstrate how regulation will increase access to safe, high quality and efficient health care in Ontario. This criterion attempts to assess how the regulation of the profession concerned would impact existing health care needs of Ontarians.

Information required:

1. What evidence exists of a need for regulation in order to enhance access to the type of care provided by the profession?
2. How would regulation of the proposed new profession impact access to health services?

Note: Please make sure to include evidence to support your answers.

d. Health Human Resource Productivity:⁴ The profession is asked to demonstrate how regulation will improve health outcomes (health status protection or improvement for individuals or populations) relative to required health human resource inputs (time, effort, skills and knowledge). This criterion aims to assess whether the regulation of the profession concerned would have an influence on the issues of productivity and health human resources.

Information required:

1. Does the profession currently measure its productivity? If so, please elaborate.
2. How would regulation improve the productivity of the profession?

Note: Please make sure to include evidence to support your answers.

e. Health Outcomes: This term refers to the impact healthcare activities of the profession concerned have on people. Health outcomes normally fall within one of three domains: clinical, psychosocial and quality of life. The profession is asked to demonstrate how regulation will improve health outcomes. This criterion aims to assess health outcomes which may be attributable to interventions of the profession concerned.

Information required:

1. Does the profession currently measure health outcomes? What are the contributions of the profession to positive health outcomes?
2. How does self-regulation improve health outcomes?

Note: Please make sure to include evidence to support your answers.

⁴ Productivity is defined as the output per unit of input; it is a function of how quickly and how well we do things. Most experts talk about productivity in terms of labour productivity – the quantity of output per unit of time. This is a particularly relevant metric in health care since approximately 70 percent of the cost of health care is attributable to labour or health human resources, Centre for Productivity and Health Human Resources (2009), Retrieved from: http://www.cprn.org/documents/51766_EN.pdf.

4. The Recommendation-Making Process

1. The Minister may request that HPRAC undertake a review of a health profession seeking regulation and/or other health professions regulatory matters, and make recommendations. As per the *RHPA*, HPRAC undertakes reviews only on the Minister's request.
2. Following receipt of the Minister's referral, the Advisory Council may arrange a meeting with the applicant(s) to discuss the timeframe and other process management issues.
3. If similar or related professions are involved in consideration of a referral, responses to the proposal may be considered jointly by the Advisory Council. Applicants will be informed, to the extent possible, should HPRAC intend to combine projects where there is an overlap in issues to be considered.
4. HPRAC will provide the applicant(s) with: (1) a package that includes questions and guidelines to aid the development of proposal; (2) research conducted by the Advisory Council (e.g., literature, jurisdictional and jurisprudence reviews); (3) timelines; and, (4) other relevant material.
5. These materials will also be posted on the Advisory Council's website at www.hprac.org.
6. Upon receipt of the proposal from the applicant, HPRAC will notify stakeholders (e.g., the public, health professionals, health professional associations, health professions regulatory colleges, etc.) that the applicant's response to the questionnaire has been posted on the HPRAC website for stakeholder feedback.
7. Following notice, stakeholders interested in the review may participate in the feedback process. Notice of opportunities for stakeholder participation in the Advisory Council's review of a matter will be communicated via the Advisory Council's website at www.hprac.org and other media. Stakeholders are encouraged to visit the HPRAC website for regular updates concerning the specific referral, or follow HPRAC on Twitter at <http://Twitter.com/HPRACOntario> to obtain updates and notifications.
8. The purpose of the feedback process is to obtain comments on the proposal for regulating a profession and/or other regulatory matters referred to HPRAC by the Minister. HPRAC will provide questions, guidelines and timelines to aid the feedback process. Stakeholder responses may contain information, with citations and evidence where applicable, that they consider relevant to the question(s) under consideration.
9. The stakeholder feedback can be provided via the HPRAC on-line consultation platform, e-mail, fax or mail. To ensure transparency and encourage open dialogue, the feedback HPRAC receives will be posted on the HPRAC website (please see the section on access to information for guidelines).
10. If required, HPRAC may consult with experts as well as hold focus groups or meetings to obtain information it deems necessary to complete the review of the Minister's referral. Persons or organizations with identified expertise may be invited, at the discretion of the Advisory Council, to make presentations, reports or submissions to the Council. Summaries of these sessions may be posted on HPRAC website (please see the section on access to information for guidelines).
11. HPRAC will conduct all its consultations in both official languages. In some cases, advance notice of the need for French language services may be required.

12. At the conclusion of the recommendation-making process, HPRAC will submit a report containing its recommendations to the Minister for consideration. This report is confidential until released by the Minister. As per the *RHPA*, HPRAC recommendations are advisory only. The Minister is not bound to accept HPRAC's advice. The release of an HPRAC report and any follow-up action are at the discretion of the Minister. Should the minister choose to accept HPRAC's advice, the Ministry of Health and Long-Term Care is responsible for implementation based on the direction of the government.

5. Access to Information

Comments submitted will be considered by the Health Professional Regulatory Advisory Council (Advisory Council) and will help it to determine appropriate recommendations to make to the Minister. To ensure transparency and encourage open dialogue, the feedback received by the Advisory Council may be posted on our website in accordance with our Privacy Statement, available at www.hprac.org/en/privacy.asp.

Please note that unless requested and otherwise agreed to by the Advisory Council, any information or comments received from organizations will be considered public information and may be used and disclosed by the Advisory Council. The Advisory Council may disclose materials or comments, or summaries of them, to other interested parties (during and after the consultation period). An individual who makes a submission and who indicates an affiliation with an organization in his or her submission will be considered to have made his or her submission on behalf of the affiliated organization.

The Advisory Council will not disclose any personal information contained in a submission of an individual who does not specify an organizational affiliation in his or her submission without the individual's consent unless required to do so by law. However, the Advisory Council may use and disclose the content of the individual's submission to assist it in fulfilling its statutory mandate.

The Advisory Council reserves the right to refuse to post a submission, in whole or in part, that, in its sole discretion: is unrelated to the issue under consultation, or, is abusive, obscene, harassing, threatening or includes defamatory comments. If you have any questions about the collection of this information, you can contact the Advisory Council at 416-326-1550.

Appendix A: What is Evidence?

"Evidence concerns facts (actual or asserted) intended for use in support of a conclusion"⁵

Types of evidence that inform the policy process can be grouped as research, knowledge/information and economics (see Table 1). Evidence is usually sought to show effectiveness, the need for policy action, guide effective implementation and/or show cost effectiveness (feasibility).⁶ The table below is designed to act as a guide for the proponent, as to what constitutes appropriate evidence for their proposal for regulation. The type of evidence required will differ based on which criteria the proposal is addressing.

Table 1: Types of Evidence⁷

Types of Evidence	Examples*
Research	Empirical evidence from randomized control trials (1) and other trials
	Analytic studies such as cohort (2) or case control studies (3)
	Time series analyses (4)
	Anecdotal (5)
	Qualitative studies (6)
	Before and after studies (7)
	Surveys (8)
Knowledge and information	Results of consultation processes with networks/groups
	Expert knowledge (9)
	Grey Literature (10)
Economics	Financial Sustainability (11)

* See notes for definitions and further details.

Notes:

(1) Randomised control trials:⁸ Randomised controlled trials are the most rigorous way of determining whether a cause-effect relation exists between treatment and outcome and for assessing the cost effectiveness of a treatment. They have several important features:

- Random allocation to intervention groups

⁵ Oxman, A. D., Lavis, J. N., Lewin, S., and Fretheim (2009). A support tools for evidence-informed health policymaking (STP) 1: What is evidence-informed policymaking? *Health Research Policy and Systems* 7(Suppl 1):S1. Retrieved from: <http://www.health-policy-systems.com/content/pdf/1478-4505-7-S1-s1.pdf>

⁶ Bowen, S., and Zwi, A. B. (2005) Pathways to "evidence-informed" policy and practice: A framework for action. *PLoS Med* 2(7): e166. Retrieved from: <http://www.who.int/rpc/evipnet/Pathways%20to%20Evidence-Informed%20Policy%20and%20Practice%20a%20framework%20for%20action.pdf>

⁷ Ibid.

⁸ Sibbald, B., and Roland, M. Understanding controlled trials: Why are randomized controlled trials important? *British Medical Journal (BMJ)*, 316 : 201. Retrieved from: <http://www.bmj.com/content/316/7126/201.full>

- Patients and trialists should remain unaware of which treatment was given until the study is completed- although such double blind studies are not always feasible or appropriate
- All intervention groups are treated identically except for the experimental treatment
- Patients are normally analyzed within the group to which they were allocated, irrespective of whether they experienced the intended intervention (intention to treat analysis)
- The analysis is focused on estimating the size of the difference in predefined outcomes between intervention groups.

(2) Cohort Study:⁹ This study identifies a group of people and follows them over a period of time to see how their exposures affect their outcomes. This type of study is normally used to look at the effect of suspected risk factors that cannot be controlled experimentally, for example the effect of smoking on lung cancer.

(3) Case Control Study:¹⁰ A case-control study is an epidemiological study (epidemiology is the study of factors that affect the health and illness of populations) that is often used to identify risk factors for a medical condition. This type of study compares a group of patients who have that condition with a group of patients that do not have it, and looks back in time to see how the characteristics of the two groups differ.

(4) Time Series Analysis:¹¹ A time series is a collection of observations of well-defined data items obtained through repeated measurements over time. For example, measuring the value of retail sales each month of the year would comprise a time series. Data collected irregularly or only once are not time series. An observed time series can be decomposed into three components: the trend (long term direction), the seasonal (systematic, calendar related movements) and the irregular (unsystematic, short term fluctuations).

(5) Anecdotal: This may include observations, experiences etc, which are non-scientific in nature.

(6) Qualitative Studies:¹² Qualitative research uses individual in-depth interviews, focus groups or questionnaires to collect, analyse and interpret data on what people do and say. It reports on the meanings, concepts, definitions, characteristics, metaphors, symbols and descriptions of things. It is more subjective than quantitative research and is often exploratory and open-ended.

(7) Before and After Study:¹³ A before and after study measures particular characteristics of a population or group of individuals at the end of an event or intervention and compares them with those characteristics before the event or intervention. The study gauges the effects of the event or intervention.

(8). Surveys:¹⁴ Survey research is one of the most important areas of measurement in applied social research. The broad area of survey research encompasses any measurement procedures that involve asking questions of respondents. A survey can be anything from a short paper-and-pencil feedback form to an intensive one-on-one in-depth interview.

(9) Expert Knowledge: Expert knowledge will be acquired through key informant interviews.

⁹ National Health Service (NHS), Retrieved from: <http://www.nhs.uk/news/Pages/Newsglossary.aspx>

¹⁰ Ibid

¹¹ Australian Bureau of Statistics (2008) Retrieved from:

<http://www.abs.gov.au/websitedbs/d3310114.nsf/4a256353001af3ed4b2562bb00121564/b81ecff00cd36415ca256ce10017de2f?OpenDocument>

¹² Supra, see note 5

¹³ Supra, see note 5

¹⁴ Colorado State University, Retrieved from: <http://writing.colostate.edu/guides/research/survey/>

(10) Grey literature¹⁵ is defined as: "Information produced on all levels of government, academia, business and industry in electronic and print formats not controlled by commercial publishing i.e. *where publishing is not the primary activity of the producing body.*" (ICGL Luxembourg definition, 1997 - Expanded in New York, 2004). Grey literature (also known as gray literature or greylit) is not published commercially or indexed by major databases. While some greylit may be of questionable quality, it can nonetheless have an impact on research, teaching and learning. Greylit may sometimes be the only source for specific research questions. Although some grey literature research is published eventually, in many cases it is not. Since greylit is often not subject to peer review, it must therefore be scrutinized accordingly. Some examples of grey literature include:

- Theses and dissertations
- Conference proceedings and abstracts
- Newsletters
- Research reports (completed and uncompleted)
- Published *documents*/reports (including policy evaluations and statistical analyses)
- Technical specifications, standards, and annual reports

(11) Financial Sustainability: In order to demonstrate financial sustainability, a business plan is required. A business plan allows a business to look ahead, allocate resources and prepare for problems and opportunities. A vital part of the business plan is a projected budget template. A budget template should include projected profit and loss, costs (salaries, legal costs, rent, etc), cash flow etc.

¹⁵ University of British Columbia Library (2011). Retrieved from: <http://toby.library.ubc.ca/subjects/subjpage2.cfm?id=878>



SECTION II

Regulation of Paramedics under the
Regulated Health Professions Act (RHPA), 1991:

Jurisdictional Review

Regulation of Paramedics and Emergency Medical Attendants: A Jurisdictional Review

Prepared by:
Secretariat of Health Professions Regulatory Advisory Council (HPRAC)

December 2012

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Objective

The objective of this jurisdictional review is to provide summary information related to the regulation of paramedics & emergency medical attendants (EMAs) in Canadian provinces, selected United States (U.S.) jurisdictions, the United Kingdom (UK), New Zealand (NZ), and Australia. Information on the following six topics was gathered:

1. Current regulatory status of the profession
2. Relevant legislation, regulations, or by-laws
3. Scope of practice
4. Controlled acts/restricted acts
5. Entry to practice and continuing development requirements
6. Practice settings

Context

Currently, paramedics working in ambulance services are regulated under the Ambulance Act and Regulation 257/00.

Registration criteria, entry to practice requirements and standards of practice are set by the Emergency Health Services Branch of the Ministry of Health and Long-Term Care in collaboration with EMS Operators, Base Hospital Medical Directors.

The Ontario Paramedic Association has indicated that the current regulatory structure is inadequate as it only covers ambulance services.

There are other types of paramedic professionals who are not covered by the Ambulance Act and its regulations. These include specialty teams functioning in large urban centres (ie. Toronto) such as paramedic marine units, rapid response units, EMS bike units, ETF – Tactical paramedics, HUSAR – Heavy Urban Search and Rescue, CBRN – Chemical, Biological, Radiological and Nuclear Paramedics, PSU – Public Safety Unit. Many work closely with Police and Fire services, Marine Units, The Canadian Coast Guard, etc. It is unclear what regulatory structure exists for these other types of paramedics.

HPRAC received a referral on June 28, 2007 from George Smitherman, former Minister of Health and Long-Term care, requesting advice on the regulation of Paramedics and EMAs under the RHPA, and if so, what would be the appropriate scope of practice, controlled acts and titles authorized to the profession. This referral was reconfirmed by the two subsequent Ministers, and is currently due for completion by December 31, 2013.¹

¹ The Minister's letter of referral information may be found at: <http://hprac.org/en/projects/Paramedics.asp>

Search Methodology

A review of current legislation, regulations, and where applicable by-laws pertaining to paramedics and EMAs in Canadian provinces, the UK, NZ, Australia, and the United States was conducted. In Canada, three self-regulating provinces (Alberta, Saskatchewan, New Brunswick) and seven government-regulating provinces (British Columbia, Manitoba, Ontario, Quebec, Nova Scotia, Prince Edward Island, Newfoundland) were reviewed.

The websites for each jurisdiction's regulatory body and professional association were also examined. Where adequate information was not available online, key informant interviews were held by telephone or through email communication with representatives of regulatory bodies, governments and relevant associations. Based on the questions posed by the Minister of Health and Long-Term Care, key themes were identified and defined (see Table 1).

Table 1: Research Theme

Category	Description
Current Regulatory Status of the Profession	Is the profession statutorily regulated? In the absence of regulation, how is the public protected? This category also may include information on discipline, code of ethics, title protection, where applicable/available.
Relevant Legislation, Regulations, or By-laws	A combination of laws, regulations, and by-laws that support the regulatory model. An organizational entity is typically assigned the authority to regulate using these tools.
Scope of Practice	"Scope of Practice" refers to a description of the acts and services a profession is legally authorized to offer or perform. It "identifies what a profession does and how it does it. It is the range of activities that a qualified practitioner may practice. [Conference Board of Canada (CBOC), 2007]
Controlled Acts /Restricted Acts	In jurisdictions that employ a controlled acts scheme, the performance of certain acts is limited to a group of regulated professionals. In other jurisdictions, the acts which the profession cannot perform are outlined in a statute, regulation, or by-law. For the purposes of this review, these are referred to as "restricted acts".
Entry to Practice Requirements	This category includes information on the registration requirements to be met in order to be licensed or registered as a paramedic or EMA.
Practice Settings	This category provides additional information with respect to the settings in which paramedics or EMAs work.

Summary of Key Findings

Current Status of the Profession

- Paramedics are regulated in some form in each province in Canada (for more information, see HPRAC analysis, *Paramedics: A Jurisprudence Review* (October 2012):

Province	Governance	Self regulation	
		Yes	No
Ontario	Indirect regulation through the <i>Ambulance Act</i>		✓
British Columbia	Direct regulation through the <i>Emergency and Health Services Act</i>		✓
Alberta	The Alberta College of Paramedics, a self-governing professional college, will be governed by the <i>Health Professions Act</i> when the relevant part of the Act is proclaimed in force (HPA, Sched.18).	✓	
Saskatchewan	Self regulation through the <i>Paramedics Act</i> .	✓	
Manitoba	Direct regulation through the <i>Emergency Medical Response and Stretcher Transportation Act</i>		✓
New Brunswick	Self regulation through the <i>Paramedics Act</i>	✓	
Nova Scotia	Direct regulation through the <i>Emergency Health Services Act</i> and Policies issued by the Emergency Health Service of Nova Scotia. Will be self-regulating upon proclamation of the <i>Paramedics Act</i>		✓
Prince Edward Island	Direct regulation through the Emergency Services Board, established via the <i>Public Health Act</i>		✓
Newfoundland and Labrador	Indirect regulation through the <i>Regional Health Authorities Regulations</i> which give the Regional Health Authorities the power to supervise, direct, and control ambulance services		✓

Paramedicine in Canada

- **Ontario:** Authority for paramedics to perform controlled acts comes from delegation by Base Hospital physicians.² They are not directly licensed although operators of ambulance services must employ paramedics with specific qualifications³. An obligation is placed on the operators of ambulance services to ensure that their paramedics meet certain standards when delivering patient care⁴.
- **British Columbia:** Paramedics are permitted to perform a list of services.⁵ Licensing is mandatory and paramedics must meet the requirements of the Emergency Medical Assistants Licensing Board in order to obtain licensure⁶. To maintain licensure, paramedics must meet ongoing continuing competence requirements⁷. In meeting their duties to the public and their profession, paramedics are guided by a Code of Ethics⁸.
- **Alberta:** Paramedics are permitted to perform a list of services "under medical control."⁹ Registration with the regulatory college is mandatory,¹⁰ and paramedics must meet entry to practice requirements.¹¹ Paramedics must meet professional conduct standards¹² as well as participate in a continuing competence program.¹³
- **Saskatchewan:** Paramedics must follow protocols developed by the college when providing emergency treatment or when administering medication.¹⁴ Registration with the regulatory college is mandatory¹⁵ and entry to practice requirements may be listed in college by-laws.¹⁶ To maintain registration, paramedics must adhere to the college's Code of Professional Conduct.¹⁷
- **Manitoba:** Paramedics may perform medical functions that have been delegated from a medical director,¹⁸ in accordance with procedures and functions set out in a guideline

² <http://www.ontarioparamedic.ca/index.php/paramedics/levels-and-scope-of-practice>

³ Section 5 of Ontario Regulation 257/00 under the *Ambulance Act*

⁴ Section 11 of Ontario Regulation 257/00 under the *Ambulance Act*

⁵ Schedule 1 of BC Regulation 210/2010 under the *Emergency and Health Services Act*

⁶ Section 5(2) of the *Emergency and Health Services Act*

⁷ Section 17(1) of BC Regulation 210/2010 under the *Emergency and Health Services Act*

⁸ Schedule 3 of BC Regulation 210/2010 under the *Emergency and Health Services Act*

⁹ Section 9 of Alberta Regulation 48/93 under the *Health Disciplines Act*

¹⁰ Section 2(1) of the *Health Disciplines Act*

¹¹ Section 2-3 of Alberta Regulation 48/93 under the *Health Disciplines Act*

¹² Section 13 of Alberta Regulation 48/93 under the *Health Disciplines Act*

¹³ Section 5(a)(i)(C) of Alberta Regulation 48/93; and Alberta College of Paramedics, *The Continuing Competence Program*, www.collegeofparamedics.org/practitioner-home/continuing-competence/the-continuing-competence-program.aspx

¹⁴ Section 23 of the *Paramedics Act*

¹⁵ Section 18(1) of the *Paramedics Act*

¹⁶ Section 15(2)(a) of the *Paramedics Act*

¹⁷ Saskatchewan College of Paramedics Regulatory By-laws (10) and Appendix A.

¹⁸ Section 7(d)(i) of Regulation 22/2006 under the *Emergency Medical Response and Stretcher Transportation Act*

document.¹⁹ Licensure is mandatory²⁰ and paramedics must meet entry to practice requirements.²¹ There do not appear to be any legislated professional standards.

- **New Brunswick:** Licensure is mandatory²² and paramedics must meet the entry to practice requirements of the Paramedic Association of New Brunswick to obtain licensure²³. To maintain registration, paramedics must participate in a continuing competency program.²⁴ The Code of Values and Ethics and the Code of Professional Standards are incorporated in the Association's by-laws.²⁵
- **Nova Scotia:** Paramedics are licensed and regulated by the Minister of Health, supplemented by a number of policies issued by the Emergency Health Service (EHS) of Nova Scotia.²⁶ A self-regulating college will be established after the *Paramedics Act* (which was passed in 2004) is proclaimed. Paramedics must be listed on the Minister's Register²⁷ meet entry to practice requirements²⁸ in order to practice. To maintain registration, paramedics must also engage in continuing education²⁹ and abide by a Code of Professional Conduct.³⁰
- **Prince Edward Island:** A medical advisor must supervise and review patient care provided by EMTs.³¹ Obtaining licensure is mandatory³² and paramedics must meet entry to practice requirements in order to be licensed.³³ Professional standards (written by the oversight body) do not appear to be publicly available. Acts of professional misconduct are described in legislation.³⁴
- **Newfoundland and Labrador:** Licensing requirements, access to controlled/restricted acts and other elements of paramedic practice are not legislated; descriptions may be set out in directives of the regional health authorities.³⁵ Paramedics must be registered with the Quality and Learning Department of Eastern Health to be hired.³⁶ The Paramedic Association of Newfoundland and Labrador has developed a code of ethics for its members.³⁷

¹⁹ Section 7(d)(ii) of Regulation 22/2006 under the *Emergency Medical Response and Stretcher Transportation Act*

²⁰ Section 5(1) of *Emergency Medical Response and Stretcher Transportation Act*

²¹ Schedule A of Regulation 22/2006 under the *Emergency Medical Response and Stretcher Transportation Act*

²² Section 11(1) of the *Paramedics Act*

²³ Paramedic Association of New Brunswick Bylaw 14.02(d)

²⁴ Paramedic Association of New Brunswick Bylaw 14.02(f)

²⁵ Paramedic Association of New Brunswick Bylaw 13.01

²⁶ See *Paramedics: A Jurisprudence Review* page 11

²⁷ Section 15 of the *Emergency Health Services Act*

²⁸ Emergency Health Services, Paramedic Registration Policy 6001

²⁹ Emergency Health Services, Paramedic Registration Policy 6012

³⁰ EHS Paramedic/EMD Code of Professional Conduct, Appendix E to Paramedic Registration Policy 6001

³¹ Section 9 of the *Emergency Medical Services Regulations*, PEI

³² Section 41 of the *Public Health Act*

³³ Section 40 of the *Public Health Act*

³⁴ Section 22 of the *Public Health Act*

³⁵ See *Paramedics: A Jurisprudence Review*, page 13

³⁶ Newfoundland and Labrador Department of Health and Community Services

http://www.health.gov.nl.ca/health/findhealthservices/ambulance_services.html

³⁷ Paramedics Association of Newfoundland and Labrador <http://www.panl.ca/?page=6>

Scope of Practice

- Paramedic training across Canada has a level of consistency as all Canadian Medical Association-accredited educational programs³⁸ are based on the profession's National Competency Profile (NCP)³⁹. The NCP was first developed in 2001 and was revised in 2011. Although the Paramedic Association of Canada estimates a commonality rate of approximately 96% in scope of practice across all provinces the association is currently completing a cross jurisdictional study in Canada. Details of 2012 study will be made available once completed by the association.
- Although Canadian paramedics are educated to the NCP standard, scope of practice varies and not all paramedics practice to that standard.
- In Saskatchewan, scope of practice is defined in a protocol manual.
- In New Brunswick, scope of practice is set out in a bylaw. Paramedics perform to the scope of practice described in the Paramedic Association of Canada's National Competency Profile (NCP) for Primary Care Paramedics⁴⁰; advanced care paramedics perform to the scope of the NCP for Advanced Care Paramedics.⁴¹
- Scope of practice is defined through the paramedic employer in Nova Scotia.⁴²
- In Newfoundland and Labrador, a description of scope of practice may be set out in directives of the regional health authorities.⁴³
- Regional differences in scope of practice exist and vary down to the community level. For example, the scope of practice for a paramedic working in the Ottawa area – or Sudbury area – is decided by the local base hospital program.

Labour Mobility

- To eliminate barriers to labour mobility, the Canadian Organization of Paramedic Regulators (COPR) established a national exam at both the PCP and ACP levels. The blueprints are based on the National Occupation Competency Profile (NOCP), developed by PAC

Certification (Ontario)

- Depending on employer, paramedics in Ontario obtain either 1 or 2 levels of certification.
- All Ontario paramedics must obtain certification from MOH-EHS (for Advanced Emergency Medical Care Assistant - EMCA).

³⁸ Canadian Medical Association Conjoint Accreditation Services, "Guidelines and Advisories," http://www.cma.ca/multimedia/CMA/Content/Images/Inside_cma/Accreditation/pdf/2012_advisory_para_program.pdf

³⁹ Paramedic Association of Canada, "National Occupational Competency Profile," <http://paramedic.ca/nocp/>

⁴⁰ Paramedic Association of New Brunswick Bylaw 14.02(b)(vi)

⁴¹ Paramedic Association of New Brunswick Bylaw 14.02.1(c)(ii)

⁴² Emergency Health Services, Paramedic Essential Competencies Policy 6000

⁴³ *Paramedics: A Jurisprudence Review*, page 13

- To work for a land or air ambulance service, additional certification from a Base Hospital Program is also required.

United States

- An estimated 22 million patients are treated every year by American Emergency Medical Services (EMS) personnel.⁴⁴
- The EMS workforce is made up of members from a range of occupational groups, including paid and volunteer EMTs, the military, firefighters, employees of commercial ambulance services, and other public utilities. The size of the EMS workforce has been estimated at 900,000 members⁴⁵; of these, approximately 226,500 are paramedics and EMTs working in full-time paid positions.⁴⁶ A lack of consistency in the workforce, and the variability in standards and statutory obligations across States, contributes to a limited understanding of the size and function of the EMS workforce.
- Each State has the authority to regulate local EMS services and determine scope of practice limits. Although licensing of EMTs and paramedics is a requirement in all States, entry to practice requirements vary by state.⁴⁷
- The National EMS Advisory Council (NEMSAC) was formed in April 2007 as a nationally recognized council of EMS representatives and consumers to provide advice and recommendations regarding EMS. In 2000, the *Agenda* was followed by the *EMS Education Agenda for the Future: A Systems Approach (Education Agenda)*. The purpose of the *Education Agenda* is to establish a system of EMS education that more closely parallels that of other allied health care professions. Data was collected in 2009 and state EMS directors were given an opportunity to revise their information in April 2010⁴⁸. Findings from reporting states included:
 - 87% of paramedics are using the National EMS Scope of practice levels as foundation for state licensure
 - 54% are using the NREMT testing process while an additional 38% are using a combination of NR/State
 - While 72% do not currently require National EMS program Accreditation, 73% are intending to in the future

National Standards

- National certification of EMTs and paramedics is available through the National Registry of Emergency Medical Technicians (NREMT); and 46 states⁴⁹ require it as a prerequisite to practise. (Some states have their own certification practices and use different titles.)

⁴⁴ Maguire, B. J., & Waltz, B. (2004). Current emergency medical services workforce issues in the United States. *Journal of Emergency Management*, 2(3), 17–26.

⁴⁵ Ibid.

⁴⁶ Bureau of Labour Statistics, "Occupational Outlook Handbook", <http://www.bls.gov/ooh/healthcare/emts-and-paramedics.htm>

⁴⁷ Bureau of Labour Statistics, "Occupational Outlook Handbook", <http://www.bls.gov/ooh/healthcare/emts-and-paramedics.htm>

⁴⁸ NASEMSO, "EMS Education Agenda: A Systems Approach - A report to the National EMS Advisory Committee on Statewide Implementation of the Education Agenda" (May, 2010)

⁴⁹ National Registry of Emergency Medical Technicians, "Fast Facts", https://www.nremt.org/nremt/about/NREMT_Fast_Facts.asp

- The National Registry is a non-profit, independent organization whose certification process identifies individuals who have met educational requirements, including successful completion of comprehensive exams.
- *The National EMS Scope of Practice Model*⁵⁰, describes four levels of licensure:
 - Emergency Medical Responder (EMR) – The primary focus of the Emergency Medical Responder is to initiate immediate lifesaving care to critical patients who access the emergency medical system
 - Emergency Medical Technician (EMT) – The primary focus of the Emergency Medical Technician is to provide basic emergency medical care and transportation for critical and emergent patients who access the emergency medical system
 - Advanced Emergency Medical Technician (AEMT) – The primary focus of the Advanced Emergency Medical Technician is to provide basic and limited advanced emergency medical care and transportation for critical and emergent patients who access the emergency medical system; and
 - Paramedic – The paramedic is an allied health professional whose primary focus is to provide advanced emergency medical care for critical and emergent patients who access the emergency medical system
- Some states call their licensure processes “certification”. However, in cases where an occupation has a statute or regulation defined scope of practice, only individuals authorized by the state (i.e., licensed) can perform those duties. The state offices which function as regulators act as licensing bodies.⁵¹
- Certification by the National Registry does not give an individual the right to practice.
- The National Highway Traffic Safety Administration (NHTSA) provides planning and development leadership and coordination to the EMS community in the United States. It has articulated a long-term vision for the future of emergency medical services in the United States through the release of a series of documents. The documents act as a guide for states when developing legislation, rules and regulations.⁵²
- New York State does not have a specific scope of practice document for the CFR/EMT/AEMT. NYS, scope of practice for the CFR/EMT/AEMT is defined by curriculum, protocol, and physician medical direction at the EMS agency, region, and State levels. In order to determine whether a particular skill falls within the EMS provider's scope of practice, one would need to refer to the appropriate curriculum and protocol. (<http://www.health.ny.gov/professionals/ems/certification/certification.htm>)

International

Details are found as part of *A Rapid Literature Review on the Practice of the Paramedic and Emergency Medical Attendant Professions* (#282 – December 2012)

⁵⁰ The National EMS Scope of Practice Model <http://www.ems.gov/education/EMSScope.pdf>

⁵¹ National Registry of Emergency Medical Technicians, “Certification v. Licensure”, http://www.nremt.org/nremt/about/Legal_Opinion.asp

⁵² NHTSA, *National EMS Scope of Practice Model*, pages 20-21.

SUPPLEMENTARY TO JURISDICTIONAL REVIEW - INTERNATIONAL

United Kingdom

The United Kingdom does not have self-regulation; instead, paramedics and EMTs are regulated by the Health & Care Professions Council (HCPC). This council consists of 10 registrant members and 10 lay members who are all appointed by the Privy Council.

Unlike Ontario, the HCPC directly licenses and certifies emergency medical personnel. This is different than Ontario, which directly regulates ambulance providers and requires them to only hire emergency personnel with certain qualifications, a form of indirect regulation.

Australia

The regulation of emergency medical personnel varies by state. There is generally very little regulation, though national certification is often functionally required to obtain employment.

Australia appears to have less emergency medical personnel regulation than Ontario. It is up to regional ambulance services to determine the necessary skills and qualifications of emergency medical personnel.

New Zealand

New Zealand does not currently regulate emergency medical services. However, an application has been submitted to regulate paramedics as a health profession.

New Zealand appears to have less emergency medical personnel regulation than Ontario.

SUPPLEMENTARY TO JURISDICTIONAL REVIEW - INTERNATIONAL

United States

Each State in the United States handles the regulation of emergency medical personnel differently. In general, the states surveyed appear to have a central licensing/registration requirement with a limited capacity to investigate emergency medical personnel and revoke the license/registration for inappropriate conduct. This provides more direct oversight than the current Ontario model, but is notably limited in scope.

New York

New York requires emergency medical personnel to be certified by the Bureau of EMS. The Bureau has the ability to investigate registered personnel and may remove their certificates.

California

California requires emergency medical personnel to be licensed by the California Emergency Medical Services Authority. The Authority requires employers to investigate complaints. It has the authority to remove the certificates of paramedics and EMTs.

Colorado

Colorado requires emergency medical personnel to be licensed by the Colorado Department of Public Health and Environment. The Department does not appear to have investigation powers but may revoke or refuse licenses for good cause.

Minnesota

Minnesota requires emergency medical personnel to be licensed by the Emergency Medical Services Regulatory Board. The Board does not appear to have direct investigation powers but may investigate ambulance services providers. The Board has the power to revoke or refuse licenses.

Oregon

Oregon requires emergency medical personnel to be licensed by the Oregon Health Authority. The Authority sets continuing education requirements for emergency medical personnel. It has investigation powers and may revoke or refuse licenses.

SUPPLEMENTARY TO JURISDICTIONAL REVIEW - INTERNATIONAL

APPENDIX A - DETAILS

Jurisdiction	Applicable Legislation	Governance	Powers of Paramedics	Licensing	Professional Standards	Investigation Powers	Enforcement
United Kingdom	<p><i>Health Act 1991, c. 8</i></p> <p><i>The Health Professions Order 2001, 2002 No. 254</i></p> <p><i>Health and Care Professions Council (Practice Committees) Rules 2009</i></p> <p>Standards of Proficiency: Paramedics</p>	<p>Self Regulation: Not self-regulated.</p> <p>Governance Model: Paramedics are directly regulated by the Health & Care Professions Council (HCPC) established under the <i>Health Act 1991</i>. The Council is empowered to establish licensing and certification standards for paramedics. Emergency medical technicians are not directly regulated.</p>	<p>Powers: Paramedic powers are outlined in the HCPC's Standards of Proficiency: Paramedics document.</p>	<p>Licensing Process: Paramedics must complete a mandatory HCPC course to be registered.</p> <p>Licensing Requirements: Employment as a paramedic requires registration with the HCPC.</p>	<p>Professional Standards: Paramedics are subject to the HCPC's Standards of Proficiency: Paramedics.</p>	<p>Investigators: Investigators are appointed by the HCPC's Investigating Committee of the Council to investigate allegations (HCPC Consolidated Practice Rules – Investigating Committee Procedure, s. 2).</p> <p>Hearings: The Investigating Committee conducts hearings to determine the fitness to practice of members after investigating allegations (s. 8).</p>	<p>Sanctions: Paramedics who have failed to meet the appropriate standards may be struck from the Register or subject to a variety of practice restrictions (<i>Health and Social Work Professions Order s. 29</i>)</p>

SUPPLEMENTARY TO JURISDICTIONAL REVIEW - INTERNATIONAL

Jurisdiction	Applicable Legislation	Governance	Powers of Paramedics	Licensing	Professional Standards	Investigation Powers	Enforcement
Australia	<p><u>Australian Capital Territory</u> Emergencies Act 2004</p> <p><u>New South Wales</u> Health Services Act 1997</p> <p><u>Queensland</u> Ambulance Service Act 1991</p> <p><u>South Australia</u> Health Care Act 2008</p> <p><u>Victoria</u> Ambulance Services Act 1986</p> <p>Health Services Act 1988</p> <p>Victoria State Emergency Service Act 2005</p> <p>Non-Emergency Patient Transport Act 2003</p>	<p>Regulated by each state; varies depending on the state in question</p> <p>Self Regulation: Not self-regulated.</p> <p>Governance Model: No formal governance model. Paramedics must apply for national certification; these certificates are prerequisites in the public sector and are often required by the private sector.¹ Specific hiring requirements vary between states.</p>	<p>Powers: Scope of practice varies between states and by employer. Some access to controlled drugs and substances in certain states.</p>	<p>Licensing Process: None, though achievement of national certification through an educational course is frequently a prerequisite to employment.</p> <p>Licensing Requirements: Non</p>	<p>Professional Standards: None legislated. However, the Council of Ambulance Authorities (CAA) represent the major statutory providers of ambulance services in each state. Their Paramedic Professional Competency Standards are highly influential.²</p>	<p>Investigators: Each state has a different method of handling paramedic health complaints. For example, Tasmania has a Health Complaints Commissioner that investigates complaints against health professionals across a variety of fields. In Western Australia, the Office of Health Review may investigate complaints.</p> <p>Hearings: Again, differs between states.</p>	<p>Sanctions: Differs between states. Investigators typically have the power to recommend to the local paramedic authority that individuals should not be employed/licensed in the state.</p>

¹ <http://www.ambulance.nsw.gov.au/employment/paramedic-positions/becoming-a-paramedic.html>

² <http://caa.nct.au/downloads/ppcs.pdf>

SUPPLEMENTARY TO JURISDICTIONAL REVIEW - INTERNATIONAL

Jurisdiction	Applicable Legislation	Governance	Powers of Paramedics	Licensing	Professional Standards	Investigation Powers	Enforcement
New Zealand	None	<p>Paramedics and EMTs are not currently regulated in New Zealand.</p> <p>However, Ambulance New Zealand has submitted an application to allow paramedics to become regulated as a health profession. It is expected that this application will be considered in 2013 (http://www.ambulancenz.co.nz/news/)</p>					

SUPPLEMENTARY TO JURISDICTIONAL REVIEW - INTERNATIONAL

Jurisdiction	Applicable Legislation	Governance	Powers of Paramedics	Licensing	Professional Standards	Investigation Powers	Enforcement
New York	Public Health Law Article 30	<p>Self Regulation: Not self-regulated.</p> <p>Governance Model: Applicants must successfully pass a certification examination to work as a paramedic or EMS. Their certificate may be revoked by the state ambulance service. There is no self-governance.</p>	<p>Powers: Paramedics provide acute primary care and both emergency and non-emergency transport services</p>	<p>Licensing Process: Certification by Bureau of EMS – New York State. Requires completion of a certification examination. (Act, s 3002(2))</p> <p>Licensing Requirements: License can be revoked for incompetence, misrepresentation, commission of crimes, etc. (Act, s 3012(1))</p>	<p>Professional Standards: The Bureau produces policies and standards. Failure to comply could result in revocation of license. (Act, s 3012(1))</p>	<p>Inspection: Somewhat limited powers to inspect (Act, s 3011(1))</p> <p>Hearings: Hearings may be ordered by the commissioner of the Bureau using procedure Bureau determines (s 3012(4))</p>	<p>Sanctions: Maximum appears to be revocation of certificate</p>

SUPPLEMENTARY TO JURISDICTIONAL REVIEW - INTERNATIONAL

Jurisdiction	Applicable Legislation	Governance	Powers of Paramedics	Licensing	Professional Standards	Investigation Powers	Enforcement
California	EMS Act, Division 2.5 - Health and Safety Code	<p>Self Regulation: Not self-regulated.</p> <p>Governance Model: The California Emergency Medical Services Authority licenses all paramedics and EMTs in California. It sets licensing standards and deals with complaints against licensed members.</p>	<p>Powers: Paramedics provide advanced life support standards in accordance with the standards of the EMS Act (s 1797.84)</p>	<p>Licensing Process: Certification by EMSA. Requires competency testing. (s 1797.172)</p> <p>Licensing Requirements: License can be revoked for incompetence, misrepresentation, commission of crimes, etc. Can also be revoked for failure to abide by continuing education requirements (s 1797.175)</p>	<p>Professional Standards: The EMSA produces policies and standards. Failure to comply could result in revocation of license. (s 1798.200)</p>	<p>Inspection: Employers are required to inspect complaints and notify local EMS branch of any violations (s 1798.200)</p> <p>Hearings: Hearings may be ordered by the medical director of the local EMS branch (s 1798.202)</p>	<p>Sanctions: Maximum appears to be revocation of licence and a fine of up to \$2500 (s 1798.210)</p>

SUPPLEMENTARY TO JURISDICTIONAL REVIEW - INTERNATIONAL

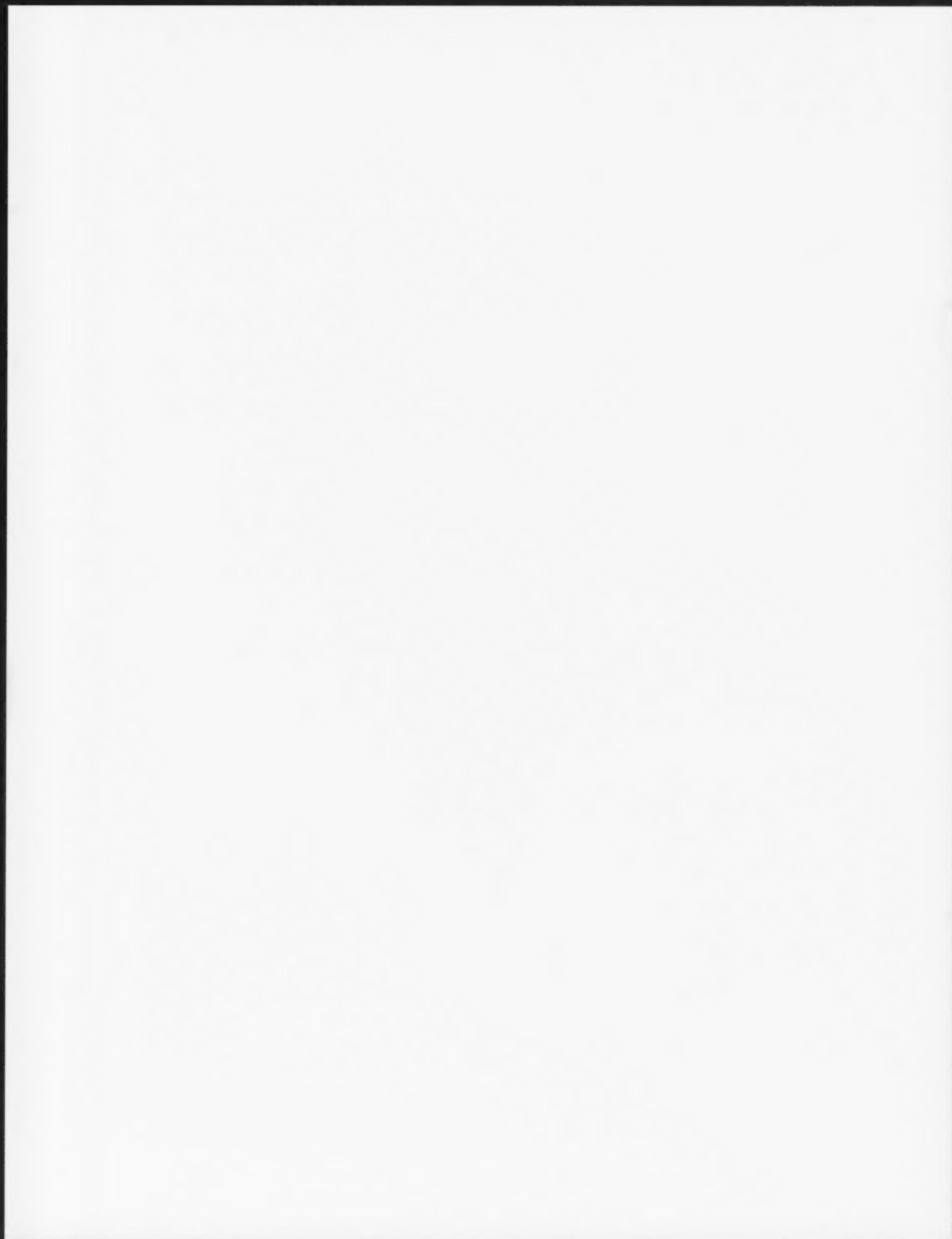
Jurisdiction	Applicable Legislation	Governance	Powers of Paramedics	Licensing	Professional Standards	Investigation Powers	Enforcement
Colorado	<i>Emergency Medical Services</i> , 6 CCR 1015-3	<p>Self Regulation: Not self-regulated.</p> <p>Governance Model: The Colorado Department of Public Health and Environment licenses all paramedics and EMTs in Colorado.</p>	<p>Powers: Paramedics provide advanced emergency medical care in accordance with the Rules Pertaining to EMS Practice and Medical Director Oversight (s 2.26)</p>	<p>Licensing Process: Certification by the Department. Requires national certification and additional requirements, such as CPR training (s 5.2)</p> <p>Licensing Requirements: Criminal background check, various life support certifications (s 5.2)</p>	<p>Professional Standards: Partially set out in the Rules Pertaining to EMS Practice</p>	<p>Inspection: None listed.</p> <p>Hearings: Appeals from a decision to revoke or refuse issuance of a certificate are available (s 6.4)</p>	<p>Sanctions: Certificates may be revoked or refused "for good cause" (s 6.1)</p>

SUPPLEMENTARY TO JURISDICTIONAL REVIEW - INTERNATIONAL

Jurisdiction	Applicable Legislation	Governance	Powers of Paramedics	Licensing	Professional Standards	Investigation Powers	Enforcement
Minnesota	<i>Emergency Medical Services Regulatory Board, Chapter 144E</i>	<p>Self Regulation: Not self-regulated.</p> <p>Governance Model: The Emergency Medical Services Regulatory Board is responsible for regulating all paramedics and EMTs in Minnesota.</p>	Powers: Not specified	<p>Licensing Process: Application to Board (s 144E.28)</p> <p>Licensing Requirements: Requires national certification and completion of a Board examination (s 144E.28)</p>	<p>Professional Standards: Partially set out in the Emergency Medical Services Regulatory Board Rules Chapter 4690</p>	<p>Inspection: Inspection of ambulance services themselves is allowed, but no specific powers for investigating paramedics and EMTs. (s 144E.18)</p> <p>Hearing: Paramedics or EMT who are denied a license or who have it revoked may request a contested case hearing before an administrative law judge (s 144E.18(12))</p>	<p>Sanctions: Certificates may be revoked or refused (s 144E.18)</p>

SUPPLEMENTARY TO JURISDICTIONAL REVIEW - INTERNATIONAL

Jurisdiction	Applicable Legislation	Governance	Powers of Paramedics	Licensing	Professional Standards	Investigation Powers	Enforcement
Oregon	<p><i>Regulation of Ambulance Services and Emergency Medical Services Providers, ORS 682)</i></p> <p><i>Emergency Medical Services Providers, Div 265</i></p>	<p>Self Regulation: Not self-regulated.</p> <p>Governance Model: The Oregon Health Authority is responsible for regulating all paramedics and EMTs in Minnesota.</p>	<p>Powers of Paramedics: Not specified</p>	<p>Licensing Process: Application to Authority (s 682.204)</p> <p>Licensing Requirements: Requires completion of an approved course and examinations (s 333-265-0025, Div 265)</p>	<p>Professional Standards: Set out in OAR 333-265 – includes continuing education</p>	<p>Inspection: Authority may investigate providers, requesting additional information, interviews, or psychological/physical tests (s 333-265-0085, Div 265)</p> <p>Hearing: None</p>	<p>Sanctions: Sanctions may go up to and include revocation of license and payment of costs associated with investigation. (s 144E.18)</p>



SECTION III

Regulation of Paramedics under the
Regulated Health Professions Act (RHPA), 1991:

Jurisprudence Review

**Paramedics:
A Jurisprudence Review**

October 2012

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Objective:

The Jurisprudence Review provides a review of cases regarding paramedics in the jurisdictions covered in the jurisdictional review. The goal of the jurisprudence review is to provide an overview of the legal issues that arise with respect to paramedics in various jurisdictions.

Search Methodology:

The LexisNexis Quicklaw legal database was searched using a variety of search terms for each common law province in Canada. Please see Appendix "A" for a description of the LexisNexis Quicklaw legal database. The primary search terms used to ensure a thorough and comprehensive search for relevant case and tribunal decisions included: paramedic, ambulance attendant, emergency medical responder, emergency medical attendant, and emergency medical technician. Significantly, where searching these terms yielded a significant number of results (typically more than 200) the following additional terms were used to narrow the results: misconduct, harm, risk, negligence or negligent, incompetent or incompetence, standard of care, and professional or profession. These searches were conducted between June 17, 2011 and July 13, 2011 and were performed using Quicklaw's "All Canadian Court and Tribunal Case Law" feature, which contains all available reported and unreported full text judgments from Canadian Courts and Tribunals as well as LexisNexis case law summaries. Additionally, a similar search was conducted for all jurisdictions on October 9, 2012 spanning the previous 15 months (from August 9, 2011 to October 9, 2012) to update the search results.

Search results were screened by quickly reviewing the headnote and full text of each case. Cases were deemed relevant if they included any allegation or reference to a paramedic's misconduct, whether on or off duty. These 'relevant' results, as mentioned and very briefly summarized in the search results table, were subsequently narrowed by excluding those cases which did not directly impact patient care or that were employment/labour matters which did not touch upon the skills of the paramedic in question. This narrowed list of cases, as labeled in **green** on the search results table, were summarized more fully and are included in the summary of findings section of this report.

Limitations

A limitation of the search methodology was that Quebec was not included in the jurisprudence review due to difficulties in obtaining legal translations of case law from that province. In line with this, there were approximately 15 cases from New Brunswick that were reported exclusively in French and as such were also not included in this jurisprudential review. Furthermore, decisions of any bodies, including discipline committees or similar adjudicative mechanisms of self-regulating bodies whose decisions are not available through Quicklaw were also not included in the review.

Summary of Case Review:

Below is a chart that summarizes the findings of the jurisprudential review. Specifically, it identifies, by jurisdiction, the number of cases and the number of times specific issues raised in those cases.

In regards to the issues that arose, several general issues came up on multiple occasions: competency, abuse of others, dishonesty, and substance abuse. By far the largest number of cases concerned issues of competency and whether the paramedic in question acted negligently in his or her treatment of patients. The second most common issue that arose was in relation to dishonest conduct, which included issues of falsifying documents, lying about interactions with patients, cheating on certification exams, and lying about qualifications. The third most frequent issue was abuse of others. The category of abuse most frequently concerned the issue of sexually assaulting patients, and to a lesser extent included the issue of sexually, physically, and verbally abusing co-workers. Finally, substance abuse was the least common issue of those that arose on multiple occasions. The category of substance abuse included issues of a paramedic being intoxicated at work, attending work with alcohol on their breath, and in one case involved a paramedic who stole medical supplies and prescription pads in order to support their addiction.

In terms of jurisdiction, Ontario, British Columbia, and Alberta had the first, second, and third largest number of cases dealing with paramedics, respectively. These provinces are respectively the first, second, and third most populous provinces considered in this review.

Arbitration vs. Court Cases

Just under half of the decisions summarized below were decided by a tribunal rather than the courts. As a result, it is important to consider the difference between the court and tribunals and why so many tribunal decisions arise in the context of disputes with paramedics.

Tribunals are established by statute for a specific purpose and they have a limited and specific area of jurisdiction. In contrast, the court system has inherent jurisdiction over all matters. The primary differences between tribunals and the courts relate to the fact that tribunals are set up to be less formal, less expensive, and more expedient than the traditional court system. In particular, the rules of evidence and procedure tend to be much more relaxed in a tribunal as compared to the courts. Additionally, tribunal members usually have a specialized expertise in the area of law in which they are making decisions, while judges tend to have a more generalized expertise.

There are many tribunal cases in the context of paramedic actions because their actions, as paramedics, are in the context of their employment and there exists many employment/labour tribunals throughout Canada that have jurisdiction over employment related matters in their respective provinces. Therefore, when disputes arise between paramedics and their employers, typically because the paramedic in question argues that they were unjustly disciplined for their alleged misconduct, the matter is heard before a labour/employment tribunal. While the tribunal cases discussed typically relate to disputes between a paramedic and their employer, the court cases identified are typically claims of negligence brought by members of the public.

An important similarity between tribunal and court cases is that there will be no decision reported where there is no matter in dispute or where it is resolved before the judge or tribunal member renders a decision. So, where a paramedic does not dispute his employer's disciplinary action or a member of the public decides not to file a claim for negligence there will be no matter for a tribunal or the courts to consider. Similarly, where the paramedic and employer/member of the public come to a settlement before a decision is rendered the matter would not appear in a jurisprudential review. As a result, a jurisprudential review is inherently unable to capture the complete extent of issues that arise related to the practice of paramedics.

Another important similarity is that both courts and tribunals are subject to the rules of precedence. Courts are obliged to follow the decisions of higher courts but decisions of the same level court are only persuasive authority. Similarly, tribunals are obliged to follow all decisions rendered by a court but earlier decisions made by that same tribunal are only considered persuasive and not binding. Under certain circumstances the courts will review a tribunal's decision; however the courts will usually treat the tribunal's decision with deference if the issue in dispute relates to the tribunal's area of expertise.

Chart summarizing the findings of the jurisprudential review

The below chart summarizes the findings of the jurisprudential review. Specifically, it identifies, by jurisdiction, the number of cases and the number of times specific issues are raised in those cases.

A few notes about the chart should be made:

- The number of issues may exceed the number of cases as more than one issue may arise in a given case
- Where more than one court case deals with the same individual and issue (i.e. where one decision is an appeal of another), it will not be counted as 2 distinct issues.
- The issue headings should not be read as implying guilt – they indicate simply the issues that arose.

Province	Number of Cases	Number of Court Cases	Number of Arbitration Cases	Issue: Competence in carrying out job duties (i.e. claims of negligence)	Issue: Abuse of patients or coworkers, sexual or otherwise	Issue: Hiding past indiscretions and/or dishonest conduct	Issue: Issues relating to intoxication and substance abuse	Issue: Other
Alberta	7	4	3	3	2	4	0	0
British Columbia	11	5	6	7	2	2	0	0
Manitoba	2	2	0	1	0	0	0	1- inquest that discussed paramedic training

Province	Number of Cases	Number of Court Cases	Number of Arbitration Cases	<u>Issue:</u> Competence in carrying out job duties (i.e. claims of negligence)	<u>Issue:</u> Abuse of patients or coworkers, sexual or otherwise	<u>Issue:</u> Hiding past indiscretions and/or dishonest conduct	<u>Issue:</u> Issues relating to intoxication and substance abuse	<u>Issue:</u> Other
New Brunswick	4	2	2	0	1	1	1	1 – issue of seniority and paramedic training
Ontario	16	8	8	11	3	3	4	3 – (1) paramedic that failed to obtain proper certification; (2) Coroner's inquest into effect of paramedic strike on the delivery of emergency medical services; and (3) whether employer could impose new job requirements on paramedics
Saskatchewan	1	1	0	0	0	0	0	1 – Issue concerned a paramedic's affiliation with the Hells Angels
Newfoundland & Labrador	1	1	0	0	1	0	0	0
Total in Canada	42	23	19	22	9	10	5	6

Summary of Cases:

This section contains the summaries of the relevant cases in each of the jurisdictions covered by this review. Specifically, these cases were both initially flagged as relevant and then narrowed because they touch upon risk of harm to a patient, and therefore coloured in green in Appendix B. The cases are sorted according to province, however, not all provinces are represented in this section as not all provinces yielded cases that required summary.

Alberta

Title	Edmonton (City) v. Canadian Union of Public Employees, Local 3197 (Sagstuen Grievance)
Citation	[2007] A.G.A.A. No. 68
Court	Alberta Grievance Arbitration
Source	QuickLaw
Search terms	emergency medical responder!
Accessed	July 8, 2011
Relevance	Issue in this case is whether concealing former employment as an EMT to hide past indiscretions is grounds for termination.

Summary	<p>The Grievor was employed by the City of Edmonton (the "City") as an emergency medical technician but was dismissed because the City discovered that the Grievor had intentionally excluded information about his previous employment from his job application to hide the fact that he was terminated due to his behavior toward female staff. The City conducted an investigation and, when questioned, the Grievor was not honest and forthright about his previous employment and the circumstances surrounding his dismissal therefrom. The City terminated the Grievor's employment and the Grievor filed a grievance claiming that he was dismissed without just cause.</p> <p>Pursuant to the authority of case law on the subject, the Board considered the following factors in determining whether this falsification of an employment application constituted just cause for discharge:</p> <ol style="list-style-type: none"> 1. <i>The nature and character of the falsification and the matter concealed</i> <ul style="list-style-type: none"> • In this case, the Grievor crafted his resume in a fashion to conceal his previous employment. 2. <i>The number of matters concealed</i> <ul style="list-style-type: none"> • The Grievor actively concealed his employment at 3 former positions and subsequently lied about the reasons he left 2 of them. 3. <i>The date when the concealed matter occurred in relation to the signing of the employment application</i> <ul style="list-style-type: none"> • The Grievor's concealed previous employment was within 3 years of when he applied for employment with the City 4. <i>Any warnings contained on the employment application.</i> <ul style="list-style-type: none"> • The application form instructed applicants to fill out the forms as completely as possible and contains a declaration, signed by the applicant, that all information on the application is true and that any deliberate false statements will result in the exclusion of the application from the competition. 5. <i>Whether the revelation of the matter concealed would have resulted in the employer not hiring the individual.</i> <ul style="list-style-type: none"> • If the City had known that the Grievor had been fired from three EMT jobs in the 3 years prior to his application with the City, the City may very well have decided to not offer the Grievor the position. 6. <i>The time that has elapsed between the signing of the false application form and the date of discovery.</i> <ul style="list-style-type: none"> • The Grievor submitted his resume and application in December 2005 and the information was discovered in May of 2006. 7. <i>Whether the employer acted promptly upon learning of the falsification of the employment record.</i> <ul style="list-style-type: none"> • The City did act promptly upon discovery of the information. 8. <i>The seniority of the Grievor.</i> <ul style="list-style-type: none"> • The Grievor is a very junior, probationary employee who only worked for the City for about 5 months. 9. <i>Whether the Grievor was in fact discharged for the falsification.</i> <ul style="list-style-type: none"> • The Grievor was terminated. 10. <i>The materiality of that falsification to the work performed.</i> <ul style="list-style-type: none"> • The fact that the Grievor had been terminated from 3 EMT jobs in the three years prior to his application with the City is material as to whether the City could have confidence that he would perform well for the City as an
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	<p>EMT over an extended period of time.</p> <p>11. <i>Special considerations such as a sensitive employment position.</i></p> <ul style="list-style-type: none"> • EMT's work in a position of trust with the City and are required to work independently and without a great deal of direct supervision. EMT's are key members of the healthcare team and must be trustworthy and dependable. <p>Given that trustworthiness is a key job requirement for an EMT position, the Board found that the Grievor's misrepresentation, both in actively misrepresenting his employment record and lying to investigators, was an extremely serious offence and demonstrated that he is not suitable for the EMT position with the City. Therefore, the grievance was dismissed and the discharge upheld.</p>
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Title	Calgary (City) v. Canadian Union of Public Employees, Local 3421 (Gee Grievance)
Citation	[2001] A.G.A.A. No. 72
Court	Alberta Grievance Arbitration
Source	QuickLaw
Search terms	ambulance attendant!
Accessed	July 8, 2011
Relevance	Issue is whether failure to conduct an assessment, as required, and falsifying a patient care report constitutes grounds for termination.

Summary	<p>A paramedic was terminated following an incident at the Arrest Processing Unit of the City of Calgary Police Service, where a severely intoxicated individual died of acute alcohol poisoning. The Grievor, as the on duty paramedic, was obliged pursuant to the policies and guidelines of the EMS to do an assessment and fill out a patient care report, however, when the incident was investigated, and videos reviewed, it was apparent that the Grievor had not carried out the assessment as required, and that the patient care report contained one or more false entries. The Grievor denied that he had failed to complete the assessment, and only admitted that two of the entries in the patient care report were erroneous, and now grieves his termination.</p> <p>The Arbitration Board determined that the discharge of the Grievor was appropriate in all the circumstances, given the failure to do the assessment as required and the falsification of the patient care report. Furthermore, the Arbitration Board found that it was not appropriate to reinstate him, in the circumstances, because the Grievor continued to deny his conduct. The grievance was therefore dismissed and the discharge upheld.</p>
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Title	Shackleton v. Knittle
Citation	1999 ABQB 539
Court	Alberta Court of Queen's Bench
Source	QuickLaw
Search terms	ambulance attendant!
Accessed	July 8, 2011
Relevance	Issue was whether paramedics were negligent by allowing a patient to sit in the front seat of the ambulance.
Summary	<p>The plaintiff was tentatively diagnosed as a paranoid schizophrenic at a hospital in Hanna, Alberta and was referred for assessment to a tertiary treatment hospital in Calgary. Two ambulance attendants were to transport the plaintiff for this purpose and to make the patient as comfortable as possible during this lengthy transport they decided to allow the plaintiff to sit in the front passenger seat of the ambulance. Shortly after the trip began the plaintiff grabbed the steering wheel of the ambulance causing the ambulance to collide with an oncoming vehicle, killing an infant passenger in the latter. The plaintiff did this because of a delusional fear for his safety, which had not been disclosed to the ambulance attendants. Following the plaintiff's criminal proceeding he sued the ambulance attendants alleging that their negligence in allowing him to ride in the front seat of the ambulance caused the accident and resultant losses and expenses which he has incurred.</p> <p>The Court, in evaluating the case, applied both the general negligence test and the test for professional negligence.</p>

	<p>When the Court applied the general test of negligence they asked whether a reasonable person should have anticipated that there might be a need to control the actions of the plaintiff. They determined that, given the apparent opinion of the doctor and nurses that there should be no problem with the patient or transport, the reasonable man would not have been expected to foresee risk where trained and experienced people did not.</p> <p>When applying the test for professional negligence the Court first noted that in 1991, when the incident occurred, there was no policy which mandated that patients were not to ride in the front and the evidence showed that at least some paramedics followed the practice of allowing patients up front in certain circumstances. The Court then stated that "acting in concert with an opinion or practice held by a significant fraction of a profession is almost always a defence to a suit for malpractice" and that the only exception arises where the practice of the profession is totally unreasonable. Given that a significant fraction of the profession followed the practice of letting patients ride up front, the remaining question was whether the practice can be characterized as totally unreasonable. With regards to that question, the Court determined that the actions of the defendants can not be characterized as totally unreasonable, given the lack of warning from the medical professionals and the reason the defendants placed the plaintiff in the front seat.</p> <p>Therefore, the Court ultimately dismissed the plaintiff's action.</p>
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Title	Calgary (City) v. Paramedic X
Citation	[1995] A.J. No. 1224
Court	Alberta Court of Queen's Bench
Source	QuickLaw
Search terms	emergency medical technician
Accessed	July 8, 2011
Relevance	Issue is the powers of a Medical Director to control the provision of health services by a paramedic. This decision was overturned by the Court of Appeal, summarized below.
Summary	<p>The City of Calgary brought an application for a declaration as to the powers of a Medical Director to control the provision of health services by a paramedic. The issue arose following the reinstatement of Paramedic X through grievance proceedings when the Medical Director recommended that Paramedic X not provide patient care in any capacity. The core issue in this proceeding was the powers of the Medical Director, appointed under the Emergency Medical Technicians Regulation passed under the Health Disciplines Act.</p> <p>The Court declared that the Medical Director, in exercising his function under the Health Disciplines Act and the Regulation, did not have the power to deprive Paramedic X of the right to provide patient care. While, pursuant to the provision of the Emergency Medical Technicians Regulation, an emergency medical technician could not provide health services without the medical control and audit of the Medical Director, the Court declared that this role of the Medical</p>

	<p>Director was limited to devising methods and procedures for carrying out the services, giving advice and directions in a specific case, and reviewing the way in which a specific case was managed by a paramedic or paramedic team.</p> <p>The Court held that providing Medical Directors with the power to prohibit a registered member of a designated health discipline from performing prescribed services is not consistent with the overall scheme of the Act because the Act already provides for a mechanism to regulate paramedic competency. The Health Professions Act provides a scheme under which a paramedic is required to be a member of a health discipline association, which is required to establish a competency committee empowered to deal with complaints or evidence that the conduct, skill, judgment or fitness to practice of a registered member poses a significant risk to the public. The Act sets out a system for the professional association to receive complaints or act on its own initiative to investigate matters of incompetence and empowers them to issue penalties ranging from a reprimand to the cancellation of the right to practice.</p>
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Title	Calgary (City) v. Paramedic X
Citation	[1999] 3 W.W.R. 509
Court	Alberta Court of Appeal
Source	QuickLaw
Search terms	emergency medical technician!
Accessed	July 8, 2011
Relevance	Issue is the powers of a Medical Director to control the provision of health services by a paramedic. This decision overruled the previous decision and established that Medical Directors, in Alberta, have the power to prohibit a paramedic from performing health services listed in the regulations to the Act.
Summary	<p>The City of Calgary appealed a decision, which declared that the powers of a Medical Director did not extend to having the authority to restrict a paramedic's ability to provide patient care. The trial judge concluded that any authority to prohibit a paramedic from performing a prescribed service, as listed in sections 11 and 12 of the Regulations, was inconsistent with the scheme of the Act, which gave the Association the authority to deal with matters of competence of its registered members. The City now brings this appeal, arguing that the legislation was broad enough to permit the Medical Director to restrict all patient contact and that the legislation set up an overlapping jurisdiction between the Medical Director and the Association regarding competency questions.</p> <p>The Court of Appeal granted the appeal holding that a Medical Director had the authority to restrict a paramedic's contact with patients by prohibiting the paramedic from providing the health services enumerated under section 11 and section 12 of the Regulations, which list the health services that paramedics must perform under the supervision of a Medical Director. While the Court acknowledged that any such restrictions could have employment issues, such restrictions did not mean that a paramedic cannot work as a paramedic, but rather, that the paramedic cannot provide those specific health services. The Court further stated that these powers of a Medical Director do not interfere with the</p>

	overall authority of the Association regarding the competence of paramedics because the former, unlike the latter, does not prohibit a paramedic from carrying out other functions at that job or to provide health services for another employer under the control of another Medical Director.
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Title	Peace Regional Emergency Medical Services Society v. Health Sciences Assn. of Alberta (Wilson Grievance)
Citation	[2003] A.G.A.A. No. 67
Court	Alberta Grievance Arbitration
Source	QuickLaw
Search terms	emergency medical technician!
Accessed	July 8, 2011
Relevance	Paramedic being terminated from his employment because of inappropriate physical contact with three female co-workers
Summary	The Grievor, a paramedic with four years of service, was terminated for inappropriate physical contact with three female co-workers. The Grievor grieved his dismissal and denied the allegations that he provided unsolicited massages to two female dispatchers and groped a female paramedic's breasts and buttocks. The Board found that the issue came down to the credibility of the Grievor versus the complainants and believed the allegations of the three female employees. The Board noted that cases of sexual harassment in the workplace have an immediate and corrupting effect on the employment relationship and there is little room left to mitigate the penalty. Additionally, the Grievor's inability to admit to his indiscretions closed off any window that may have existed to reconstitute the employment relationship. Therefore, the Board unanimously decided to dismiss the grievance.

Title	R. v. Burns
Citation	[1993] A.J. No. 998
Court	Alberta Provincial Court – Criminal Division
Source	QuickLaw
Search terms	paramedic! AND negligence or negligent
Accessed	July 8, 2011
Relevance	Criminal prosecution of an individual for uttering a forged document. The individual fabricated their credentials to secure various positions of employment, including as a teacher responsible for training paramedics.

Summary	<p>This proceeding related to the sentencing of a 40 year-old offender convicted of uttering a forged document. The accused had falsified her resume by inflating her credentials, claiming to be qualified as a medical doctor and to have a Ph.D. in medical science, to secure teaching positions at various universities and colleges.</p> <p>The Court weighed mitigating factors, including an early guilty plea and the fact that she had no prior record, against aggravating factors, including the fact that the misrepresentation extended over nearly 13 years and escalated over time, the fact that the offence affected a broad spectrum of victims, and that there were potentially serious consequences to the public arising at the hands of paramedical caregivers who may have been taught incorrect procedures by the convicted offender. The Court was of the view that the offence was a serious one, calling for general deterrence, and therefore determined that incarceration was appropriate and sentenced the convicted offender to four months incarceration.</p>
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British Columbia

Title	British Columbia Ambulance Service v. Ambulance Paramedics of British Columbia (Snider Grievance)
Citation	[2003] B.C.C.A.A.A. No. 69
Court	British Columbia Collective Agreement Arbitration
Source	QuickLaw
Search terms	emergency medical attendant!
Accessed	July 11, 2011
Relevance	Issue was whether a paramedic committed the alleged incident of patient verbal abuse.

Summary	<p>The employer imposed a four-day suspension on the Grievor, an emergency medical attendant, for allegedly being verbally abusive to a patient. The Grievor brought this grievance denying any misconduct and arguing that the discipline was imposed without just cause. The alleged misconduct as stated the in the patient's written complaint consisted of the allegations that the Grievor called the patient an "idiot", said "women complain too much", referred to the patient as a "young puppy", accidentally hit the patient on the head with a medical bag, complained that he "hate this [explicit] [redacted] [apartment building]", and generally acted in a very rude and abrasive way towards the patient.</p> <p>The Board agreed with the Employer that if the conduct alleged were to be proven it would constitute a serious act of patient abuse. Hence, the issue raised is whether the Employer was able to prove the misconduct to the degree of probability required. Given that the Grievor is a senior paramedic with an unblemished work record of more than 12 years and the fact that the driver's testimony supports the grievor's contentions, the Board concluded that the patient likely misconstrued innocent comments made by the Grievor. Therefore, the Board granted the grievance and awarded the Grievor compensation for his lost wages and to have all references to the discipline removed from his personnel file.</p>
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Title	Emergency Health Services Commission and Ambulance Paramedics of British Columbia, CUPE Local 873
Citation	[1997] B.C.C.A.A.A. No. 752
Court	British Columbia Collective Agreement Arbitration
Source	QuickLaw
Search terms	emergency medical attendant!
Accessed	July 11, 2011
Relevance	Issue was whether an employer had grounds for dismissing a paramedic for allegedly cheating on an employment upgrading exam

Summary	<p>This dispute involves a paramedic grieving their termination for allegedly cheating during an off-duty employment-related qualification exam. The Grievor wrote the Emergency Medical Attendant III classification exam and an exam proctor noticed and confiscated from the Grievor a writing pad containing hand-written notes, which the employer concluded were "cheat sheets". The employer discharged the Grievor and the Grievor filed this grievance alleging unjust termination on the basis that he was off duty, the absence of any clear direction or rule restricting material which could be used in the examination, and given the circumstantial character of the Employer's evidence.</p> <p>Given the fact that some instructions implied the exam was closed book and the Grievor had previously written several similar examinations, the Arbitrator determined that the Grievor was aware that he was not entitled to access extrinsic notes to assist him during the exam. Following this finding the Arbitrator examined the Grievor's explanation for why the writing pad was on his desk and determined that the explanation was not plausible. Having found misconduct, the Arbitrator turned his attention to the question of whether a discharge was excessive in the circumstances.</p> <p>The Arbitrator stated that paramedics are largely unsupervised and treat members of the public in the most vulnerable circumstances and as such an employer is entitled to expect and insist upon the highest degree of trustworthiness from its employees. An employee 'who has demonstrated a lack of integrity in other respects cannot be trusted to adopt a different moral code when treating patients'. Therefore the Arbitrator concluded that having regard to the nature of the employment responsibilities, the degree of trust the Employer reposes in a paramedic, the nature of the Grievor's misconduct, his previous acts of dishonesty leading to a suspension of 18 months, and the Grievor's lack of candour in these proceedings, that it would be unfair to require the Employer to maintain the Grievor's employment. Accordingly, the grievance was dismissed</p>
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Title	Emergency Health Services Commission v. C.U.P.E., Local 873
Citation	[1987] B.C.C.A.A.A. No. 342
Court	British Columbia Collective Agreement Arbitration
Source	QuickLaw
Search terms	emergency medical attendant!
Accessed	July 11, 2011
Relevance	Issue was whether a paramedic provided the appropriate standard of care when treating a patient and, if not, whether it was grounds for dismissal
Summary	<p>An Emergency Medical Assistant II was dismissed for allegedly providing unsatisfactory care of a patient and for failing to have an EMA licence, which he lost for providing unsatisfactory care to that same patient. The emergency medical assistant grieved his dismissal alleging that in the circumstances dismissal was an excessive response.</p> <p>The arbitrator first considered whether the Grievor was guilty of any misconduct when responding to the patient, who was suffering from an overdose. In particular, whether the Grievor negligently failed to insert an airway, administer</p>

oxygen, suction the patient's mouth, and recognize the patient was in arrest. Each issue will be discussed in turn:

1. Failure to insert an airway
 - Expert witnesses testified that with a vomiting patient the Grievor was correct to not insert an airway
2. Failure to administer oxygen
 - While the Grievor did administer oxygen through an untaught technique known as a 'gravity wave', the expert witnesses testified that they too have used the 'gravity wave' technique in similar circumstances, despite it not being officially taught.
 - With regards to the issue of using untaught techniques the Arbitrator said "To the extent that such procedures are inconsistent with training at the Justice Institute this is a proper matter for concern on the Employer's part. It indicates a widespread need for correction of employee behaviour. It does not indicate that the first employee who is discovered to be using such procedures should be dismissed."
3. Failure to suction patient's mouth
 - The expert witnesses agreed with the Grievor's judgment call to use a swab rather than suction equipment to clear the patient's mouth.
4. Failure to notice patient was in arrest
 - The Arbitrator was satisfied that the Grievor was sufficiently attentive to the patient in the ambulance and that the arrest likely occurred following the ambulance's arrival at the hospital. However, the arbitrator concluded that the Grievor was not sufficiently attentive to the patient during the approximately 3 minutes between the arrival of the ambulance at the hospital and the discovery that the patient had stopped breathing. This determination was uncontroversial as the Grievor conceded that he did not monitor the patient as he should have during this time.

Given that the paramedic's lack of attention after arriving at the hospital was the only aspect of the treatment that warranted discipline, Arbitrator found discharge to be excessive having regard to the Grievor's exemplary 14 year work history. Therefore, the employer was ordered to reinstate the Grievor.

The Arbitrator then considered the employer's argument that the arbitrator lacked the jurisdiction to make a reinstatement order because the issue of the Grievor losing his licence falls outside the scope of the collective agreement. It was determined that the Commission acted prematurely by revoking the Grievor's licence for the same issue that could be grieved because the revocation of a licence in such circumstances would have the effect of making grievance rights illusory. Therefore, the Arbitrator held that the revocation of the Grievor's licence was impermissible because it was premature.

Title	Emergency Health Services Commission v. Ambulance Paramedics of British Columbia, Canadian Union of Public Employees, Local 873 (Lalli Grievance)
Citation	[1986] B.C.C.A.A.A. No. 86
Court	British Columbia Collective Agreement Arbitration
Source	QuickLaw
Search terms	ambulance attendant! AND misconduct
Accessed	July 11, 2011
Relevance	Issue was whether a paramedic provided the appropriate standard of care when treating a patient and, if not, whether it was grounds for discipline
Summary	<p>An ambulance attendant, was given a letter of reprimand for giving care below the required standard to an elderly patient. The ambulance attendant denied having done so and filed this grievance.</p> <p>It was alleged that in responding to an elderly patient who fell out of their bed at a nursing home, and potentially fracturing their leg or hip, the Grievor fell short of the standard of care required of them by:</p> <ul style="list-style-type: none"> • having the patient stand up and weight bear, • using the fore and aft lift, • handling the patient roughly and unsafely and by displaying a brusque and uncaring manner, • not splinting his patient before transporting her, and • failing to complete the crew report by not filling in the stated destination on the form <p>An expert witness, who is in charge of training paramedics of the Grievor's level (EMA II), testified that he did not find fault with the removal of the patient from her room to the stretcher by the fore and aft lift method. He also testified that it is contrary to what EMA II's are taught to have a patient stand up where the patient is suspected of a fracture of the hip because of the possibility of vascular damage. As such, the Arbitrator agreed that the Grievor erred by requesting the patient stand. With regards to the splinting, the Arbitrator, based on the expert evidence, concluded that the Grievor was trained to splint suspected hip fracture cases, where possible, before they are moved and while it was possible for the Grievor to do so but he delayed splinting until the patient was in the ambulance. Therefore, he fell below the standard of care directed by his training, however, evidence from other ambulance attendants as well as numerous crew reports indicated that not all suspected hip fracture cases are splinted in practice. Additionally, having regard to the conflicting testimonies the arbitrator concluded that the weight of evidence does not support the conclusions stated in the letter of reprimand that the Grievor was less than gentle and his projected manner was brusque and uncaring. Finally, the Grievor admitted that the crew report he turned in was deficient in that it omitted the name of the hospital to which the patient was taken.</p> <p>Counsel for the Grievor argued that the Grievor was singled out for discipline because of the fact that the patient's son is a cabinet minister. While the Arbitrator was satisfied on the evidence that the Grievor did have the patient stand up, did</p>

	not splint her when he should have, and failed to fully complete the crew report, that based on the various crew reports presented, which showed similar incidents of misconduct that were not disciplined, that the imposition of discipline on the Grievor was out of the ordinary. Even the Chairman of the Union's Standards of Practice Committee, which administers a peer review program with the approval of the Commission, expressed the opinion that the Grievor's conduct was properly a case for referral to that Committee and, he implied, not for discipline. The arbitrator ultimately concluded that "that if the identical circumstances, save the peculiar one, had occurred [the Grievor] would not have been disciplined. The peculiar circumstance I refer to is the patient being the mother of a cabinet minister". Therefore, it was ordered that the letter of reprimand be withdrawn.
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Title	Edgar v. Richmond (Township)
Citation	[1991] B.C.J. No. 598
Court	British Columbia Supreme Court
Source	QuickLaw
Search terms	ambulance attendant! AND misconduct
Accessed	July 11, 2011
Relevance	Issue of whether paramedics were negligent for following protocol under the circumstances and waiting for the arrival of police before entering the premises
Summary	<p>This is an action in negligence against the emergency dispatchers, ambulance attendants, and police officers that responded to a 911 call that left the plaintiff a permanent quadriplegic. The circumstances of the 911 call were as follows: the plaintiff's mother called 911 because her daughter was "going crazy"; the dispatcher alerted the paramedics and police of the situation; the paramedics arrived in approximately 10 minutes and awaited the arrival of the police officers as was procedure for dealing with Mental Health Act patients; the police officers arrived 25 minutes after the 911 call was made and were led up to the plaintiff's bedroom where she had locked herself in; shortly after plaintiff jumped out of her bedroom window and suffered the injuries complained of.</p> <p>The action against the ambulance attendants was based on the allegation that failed to respond properly to the 911 emergency call. Specifically, that they were negligent in failing to enter the household until the arrival of the police officers. The Court concluded that this was not conduct that could be faulted because superimposed upon ambulance attendants are the provisions of the Mental Health Act, which prevent them from seizing a person who refuses to or is incapable of voluntarily surrendering themselves. The ability to seize or subdue a person under the Act is left with police officers and there are clear reasons in the public interest why this is so. The ambulance attendants are powerless to act until the premises and persons are secured by the attending police. As such, the Court ruled that these defendants were acting in accordance with a statutory duty imposed upon them and in accordance with their public duty and therefore the plaintiff is unable to establish a case in negligence against them.</p>

Title	R. v. Husereau
Citation	[2009] B.C.J. No. 571
Court	British Columbia Provincial Court
Source	QuickLaw
Search terms	ambulance attendant! AND misconduct
Accessed	July 11, 2011
Relevance	Criminal proceeding relating the a paramedic being accused of sexually assaulting a 12 year old patient in the back of the ambulance
Summary	Criminal trial of an ambulance attendant charged with the sexual assault of a 12-year-old boy allegedly committed in the back of an ambulance during a physical examination. The accused argued that he touched the complainant's genitals as part of an examination to determine if he was suffering from abdominal pain. The Court found that the accused was not a credible witness and that the accused's explanation for why he touched the complainant was not reasonable given the circumstances because the child did not appear to require the examination performed by the accused. As such, the Crown established beyond a reasonable doubt that the touching was for a sexual purpose and the accused was found guilty.

Title	R. v. M.E.H.
Citation	[2009] B.C.J. No. 2053
Court	British Columbia Provincial Court
Source	QuickLaw
Search terms	ambulance attendant! AND misconduct
Accessed	July 11, 2011
Relevance	Sentencing of accused in R. v. Husereau. Case mentions that paramedic lost his job as a result of his conviction.
Summary	This decision was the sentencing of the ambulance attendant in the above R. v. Husereau case. The Court concluded that considering the need for deterrence and denunciation, a sentence of 90 days' duration would be appropriate in this case followed by a 3 year probation and sex offender registration. The Court also considered the fact that the accused had already paid a hefty price by losing his employment as a result of the conviction.

Title	Davidson v. British Columbia
Citation	[1996] 1 W.W.R. 137
Court	British Columbia Supreme Court
Source	QuickLaw
Search terms	ambulance attendant! AND negligence or negligent AND "standard of care" AND professional or profession
Accessed	July 11, 2011
Relevance	Whether paramedics acted negligently by failing to adequately inform the patient, in specific terms, of the risks associated with refusing medical treatment
Summary	<p>The 52-year-old plaintiff fell, while drunk, on an escalator and suffered a closed head injury. When the paramedics arrived the plaintiff's vital signs were normal and the paramedics attempted to take the plaintiff to the hospital but he became aggressive and agitated. They told him that he had a head injury and should go to the hospital to be examined, but he refused and they could not reason with him. While the precise words they used were beyond recall it was generally that head wounds are a concern and should be checked out by a doctor at a hospital to be on the safe side. In trying to persuade the plaintiff they did not attempt to specifically, in medical terms, explain to him the risks involved. They ultimately gave up but took him home to make sure that he got there safely. The next day the plaintiff's wife found him in a coma caused by an intracranial haematoma. The plaintiff is now suing the two ambulance attendants on the scene and the Crown as their employer, for damages for injuries he suffered. He claimed that the ambulance attendants were negligent in that when he refused to go to the hospital they failed to adequately inform him of the risks associated with a head injury and in not informing his wife of those risks when they dropped him off at home. The defendants argue that they provided the standard of care required of them and acted reasonably in the circumstances. Nowhere in their training were they told to inform patients of any risks attendant upon the circumstances.</p> <p>The Court dismissed the action holding that the defendants acted reasonably in the circumstances and carried out their duties at the scene in accordance with the standards of their training. In particular the Court held that the paramedics fulfilled their duties by both treating the patient appropriately, advising he proceed to the hospital, and essentially performing all that reasonable men in their position with their training could do since they could not be expected to enter into the realm of medical theory nor did the circumstances call for extreme or invasive measures to be taken to force him into hospital against his will. The Court further stated that the implication of risk must have been visible to the plaintiff and that the tragic outcome was brought on by the stubborn intransigence of the plaintiff. With regards to whether the paramedics acted negligently by not appraising the plaintiff's wife of the situation, the Court held that there was no duty on them to seek out third parties for the purpose of informing them of what had occurred and the Court refused to recognize that the well intentioned act of escorting an intoxicated man home for his own safety results in a duty to inform the occupants of his home.</p>

Title	Daley v. Emergency and Health Services Commission
Citation	[2008] B.C.H.R.T.D. No. 63
Court	British Columbia Human Rights Tribunal
Source	QuickLaw
Search terms	paramedic! AND misconduct
Accessed	July 11, 2011
Relevance	Issue was whether an employer discriminated against a paramedic on the basis of disability. The disability in question was post-traumatic stress disorder and developed from an incident where a patient died. In that incident the paramedic was disciplined for not providing adequate care.
Summary	<p>This case follows the aftermath of an incident where a paramedic's patient had died shortly after being transported to the hospital (the "Rutherford Incident"). The paramedic was disciplined following the incident and did not dispute the disciplinary measures imposed on him for his judgment calls to remove oxygen and cancel the Advanced Life Support unit, which were decisions that contributed to the patient's death. Following the incident the paramedic eventually developed post-traumatic stress disorder, depression, and anxiety and now the paramedic alleges that his employer is discriminating against him on the basis of disability, contrary to s. 13 of the <i>Human Rights Code</i>. Specifically, the paramedic alleges that his employer harassed and otherwise discriminated against him in numerous ways during the course of his employment, including: requiring him to attend meetings; threatening and harassing him in the meetings he attended; denying or delaying his benefit payments; failing to make reasonable enquiries about his ability to work; making financial threats to undermine his confidence and health; and imposing discipline on him for minor matters which were arguably related to his disability. Additionally, he alleges that his employer fired him for failing to return to work on November 13, 2004, and that that firing was due in whole or in part to his mental disability. Ultimately, he argues that his employers systemically discriminate against mentally disabled employees on the basis of the belief that anyone with depression, anxiety and PTSD should not be a paramedic.</p> <p>The Tribunal, upon examining the evidence, concluded that the evidence, taken as a whole, did not substantiate any of these allegations. Therefore, the Tribunal concluded that the paramedic had failed to establish a <i>prima facie</i> case of discrimination on the basis of mental disability and dismissed his complaint.</p>

Title	Emergency Health Services Commission and Ambulance Paramedics of British Columbia, CUPE Local 873 (Belway Grievance)
Citation	[1998] B.C.C.A.A.A. No. 250
Court	British Columbia Collective Agreement Arbitration
Source	QuickLaw
Search terms	paramedic! AND misconduct
Accessed	July 11, 2011
Relevance	Issue was whether a paramedic's suspension for falsely reporting a patient's condition to dispatchers was excessive in the circumstances.
Summary	<p>The facts giving rise to this case may be summarized as follows: on January 5, 1997 the Grievor and his partner were dispatched "Code 3" to an apartment where a man had fallen down; upon arrival, the Grievor found that the situation was not a Code 3 emergency, but, rather, involved a mere ankle injury; the Grievor, however, advised the Dispatcher that they were enroute to the Vancouver General Hospital with a traumatic arrest; as a result of the Grievor's information, the Dispatcher contacted the hospital and advised a traumatic arrest was being brought in and the hospital staff responded by preparing for this emergency prior to the arrival of the ambulance; the next day a complaint was filed with respect to the Grievor's "false alarm" and shortly after the Grievor was suspended for 2 days. The Grievor grieves this suspension, alleging that it is an excessive disciplinary response.</p> <p>The Arbitrator accepted that the Grievor's conduct did give rise to just cause for some measure of discipline because an integral part of the job of an ALS paramedic involves the accurate communication of assessments. However, it was determined that a 2 day suspension was an excessive response because while the Grievor did commit a serious wrongdoing, the incident at the hospital would, in all likelihood, not have occurred had the Dispatcher followed proper procedure. Put another way, by all accounts the Dispatcher must share the blame for the incident because they initially called for a Code 3, failed to seek additional information upon hearing the Grievor state the patient's condition as a traumatic arrest, and did not advise the Grievor he had notified the hospital of the stated emergency. These omissions were contrary to established policy and allowed the situation to escalate to the point that it did. Given that like incidents should be punished similarly and the dispatcher received no disciplinary action, the Arbitrator decided a 2 day suspension was excessive. Further mitigating factors included that fact that the Grievor was a long term solid employee, with a clean disciplinary record, and a number of accolades contained in his file. Therefore, based on all the circumstances, the Arbitrator ordered that the suspension be replaced with a written reprimand.</p>

Title	Battrum v. British Columbia
Citation	[2009] B.C.J. No. 1074
Court	British Columbia Supreme Court
Source	QuickLaw
Search terms	paramedic! AND negligence or negligent AND standard of care
Accessed	July 11, 2011
Relevance	Issue was whether a paramedic negligently treated a patient thereby exacerbating the patient's injuries
Summary	<p>Action by the plaintiff against the defendants (2 paramedics and the provincial Crown) for negligence. The plaintiff, age 54, fell from a horse and landed heavily on her right shoulder. She felt considerable pain in her right shoulder and any attempt to shift her arm was extremely painful. Paramedics arrived on the scene and the plaintiff testified that the paramedic forced her injured arm from its initial position to across her body, causing extreme pain. The plaintiff alleges that a paramedic negligently moved her injured arm in a manner that caused nerve injury. The paramedic testified that he did not move the arm more than half an inch.</p> <p>The Court found that the plaintiff's evidence regarding the position of her arm upon arrival of the paramedics was inconsistent with other evidence, changed over time, and was unreliable. Based on the evidence of bystanders, the paramedic was unnecessarily rough, unprofessional and unsympathetic in his treatment of the plaintiff. However, the paramedic met the standard of care for treatment of a dislocated shoulder with possible spinal injury as the paramedic splinted the plaintiff's arm in the position that he found it. Therefore, the Court dismissed the action.</p>

Manitoba

Title	Harder Estate (Re)
Citation	[2003] M.J. No. 315
Court	Manitoba Provincial Court
Source	QuickLaw
Search terms	paramedic! AND risk
Accessed	June 17, 2011
Relevance	Issue of whether the City, in not employing enough paramedics certified to administer drugs to children, contributed to the death of a child.
Summary	Inquest to determine the circumstances of five-year-old Harder's death and to determine what could be done to prevent similar deaths from occurring in the future. The inquest considered the role of many factors, including lifeguard certification and public pool regulations, but only the aspects of the inquest that relate to paramedics will be discussed.

	<p>Harder was found floating face down in the shallow end of a City pool and the paramedics who arrived in scene failed in their efforts to resuscitate Harder. Normally epinephrine would be administered to someone in cardiac arrest, like Harder, but only a level three paramedic could do so in the case of a child. Since the only level three paramedic on duty at the time was on the other side of the City, it was faster for the ambulance to take Harder to the Hospital rather than wait for a level three paramedic. While it is impossible to know if it would have made a difference in the outcome, the fact remains that if a level three paramedic had been available the epinephrine would have been administered at least ten minutes earlier than it was.</p> <p>The inquest concluded, in relation to this issue, that for a city the size of Winnipeg only having 10 level three paramedics was insufficient and the City should increase the number of paramedics with this training and, ideally, most if not all City paramedics should be level three certified.</p>
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Title	Bodnarek v. Health Sciences Centre
Citation	[2004] M.J. No. 401
Court	Manitoba Court of Queen's Bench
Source	QuickLaw
Search terms	ambulance attendant!
Accessed	June 17, 2011
Relevance	Issue was whether a plaintiff was unnecessarily delaying an action against the defendant alleging that paramedics, in the defendant's employ, negligently failed to take the plaintiff to the hospital.
Summary	<p>This is a motion by the defendant Health Sciences Centre (the "defendant") to dismiss the appeal of the plaintiff from a decision of the Master dismissing the plaintiff's claim due to delay. The defendant seeks to dismiss the appeal on the same basis that it sought successfully to dismiss the claim, that is, that the plaintiff has delayed in pursuing it.</p> <p>The facts giving rise to this case may be summarized as follows: on June 19, 1997, the plaintiff called the City of Winnipeg Ambulance Service when she was unable to remove herself from the bathtub while taking a bath; she claims that the ambulance attendants proceeded to lift her out of the bathtub and place her on the bed but did not take her to the hospital; when the back pain and numbness continued, the plaintiff's husband took her to the Hospital where she was admitted and diagnosed with a spinal epidural abscess; she underwent surgery to remove the abscess but was left with severe neurological damage. The plaintiff filed a statement of claim wherein the Plaintiff claims that the City of Winnipeg is vicariously liable for the negligence of the ambulance attendants for failing to take the plaintiff to the hospital for further assessment. Since filing the statement of claim, no steps whatsoever have been taken by the plaintiff to pursue her claim. In February 2003, the defendant successfully brought a motion to dismiss on the basis of delay. The plaintiff appealed the decision on the motion and after prolonged delays in setting the matter down for appeal the defendant filed to dismiss the appeal based on delay.</p>

	<p>The Court considered whether the plaintiff unreasonably delayed the prosecution of this action and whether the delay was reasonably justified. In so doing, the Court determined that while the plaintiff has suffered from many personal difficulties during the past seven years (medical problems, financial problems, child taken by Child and Family Services), there was no reasonable justification for the delay in this case. Therefore, the Court granted the Defendant's motion to dismiss the appeal.</p>
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New Brunswick

Title	Canadian Union of Public Employees, Local 1252 v. Region 7 Hospital Corp. (Butler Grievance)
Citation	[2000] N.B.L.A.A. No. 20
Court	New Brunswick Labour Adjudication
Source	QuickLaw
Search terms	emergency medical technician!
Accessed	June 17, 2011
Relevance	Issue was whether a paramedic reporting for duty with alcohol on his breath is grounds for dismissal in the circumstances
Summary	<p>A paramedic grieved his dismissal, which was based on him reporting to work with alcohol on his breath, as being unjust and seeks reinstatement. On the morning of January 30, 2000, a passenger train derailed and the Grievor was paged and responded to the emergency situation despite having celebrated his birthday the night before and consumed about a pint of vodka. The smell of alcohol was detected on the Grievor's breath and he was subsequently dismissed. This incident was not the first occasion in which the employer linked the Grievor with alcohol consumption:</p> <ul style="list-style-type: none"> • On May 4, 1998, the Grievor received a verbal warning for having alcohol on his breath while at work. • On August 12, 1998, the Grievor received a second warning for having alcohol on his breath while at work. • On October 13, 1998, the Grievor was again found to have the smell of alcohol on his breath while at work. This time, the employer responded with a one day suspension with pay and a letter of reprimand. • On December 8, 1998, the Grievor again reported to work with the smell of alcohol on his breath. The employer issued another letter of reprimand and a one day suspension, this time without pay. • On January 2, 1999, the Grievor again reported to work with the smell of alcohol on his breath. He voluntarily took a blood alcohol test which revealed that he was legally intoxicated. The employer issued a letter of reprimand and a 3 day suspension. • On March 18, 1999, the employer wrote to the Grievor informing him that there was reason to suspect that he reported to work on March 11, 1999 with the smell of alcohol on his breath but that no disciplinary action would

	<p>be imposed due to the lack of confirmation of the incident.</p> <p>Since his dismissal, the Grievor has completed an extended alcohol treatment program, is seeing a counsellor, attends Alcoholics Anonymous, has no desire to consume alcohol, and is more communicative with his family.</p> <p>The Arbitrator concluded that the employer had clearly satisfied its burden of proof that the Grievor reported to work under the influence of alcohol and was deserving of disciplinary action. Given that the employer acted with compassion by following progressive discipline, offering appropriate treatment to the Grievor to address his alcohol problem, and repeatedly and clearly brought the discipline policy to the Grievor's attention, the Arbitrator concluded that such conduct was deserving of sanction and that there was just cause for dismissal.</p>
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Title	Canadian Union of Public Employees, Local 1252 v. Atlantic Health Sciences Corp. (Mesereau Grievance)
Citation	[2009] N.B.L.A.A. No. 11
Court	New Brunswick Labour Adjudication
Source	QuickLaw
Search terms	emergency medical attendant!
Accessed	June 17, 2011
Relevance	Issue was whether additional qualification requirements for a paramedic position were valid.
Summary	<p>The Grievor filed a grievance after he was denied a job position, despite being the most senior candidate, on the grounds that he lacked the formal qualifications. The qualifications included education and experience related to medical/surgical care, medication administration, phlebotomy and physical assessment. The Grievor had not yet upgraded his education to include courses in phlebotomy and medication administration. The Grievor, as the most senior applicant, alleged that he ought to have been awarded the position.</p> <p>The Arbitrator concluded that the additional skills of the posted positions were reasonable, relevant and created in good faith. Since the additional skills were not required by the Grievor to maintain his current employment the employer was not obligated to award the Grievor the position and allow him time to upgrade his education. Therefore, the grievance was dismissed.</p>

Title	Price v. St. John Ambulance, New Brunswick Council
Citation	[1997] N.B.J. No. 169
Court	New Brunswick Court of Queen's Bench - Trial Division
Source	QuickLaw
Search terms	ambulance attendant!
Accessed	June 17, 2011
Relevance	Issue was whether St. John Ambulance correctly expelled a student from their ambulance attendant course for allegedly cheating.
Summary	Application for judicial review of a decision by St. John Ambulance to expel the applicant from the ambulance attendant course for allegedly cheating in an examination. The Court first determined that it had jurisdiction to deal with the matter since St. John Ambulance was an emanation of the Legislature and obtained funding from the Province. Then moving onto the issue in the case, the Court quashed the decision because St. John Ambulance breached the rules of natural justice by not advising the applicant of the case she had to meet and by failing to advise the applicant of statements made by the other students.

Title	R. v. Léger
Citation	[1999] N.B.J. No. 43
Court	New Brunswick Court of Appeal
Source	QuickLaw
Search terms	ambulance attendant!
Accessed	June 17, 2011
Relevance	Issue was whether a trial judge erred in convicting a paramedic for sexually assaulting a patient
Summary	Appeal by Leger, an ambulance attendant, from a conviction for sexual assault that allegedly occurred while the victim was a patient in the back of his ambulance. The Trial Judge determined that Leger touched the patient without her consent and that it was with a sexual purpose, but Leger claimed that the trial judge erred in his appreciation of the evidence as well as of the credibility of the witnesses as to whether the assault was sexual in nature and filed this appeal. The Court dismissed the appeal on the basis that the trial judge examined all of the relevant circumstances surrounding Leger's conduct. The Trial judge based his decision on an appreciation of Leger's credibility, which findings were accorded considerable deference by an appellate Court. No error was shown and the conviction was not unreasonable considering the totality of the evidence.

Ontario

Title	Mattick Estate v. Ontario (Minister of Health)]
Citation	[2001] O.J. No. 21
Court	Ontario Court of Appeal
Source	QuickLaw
Search terms	emergency medical attendant!
Accessed	July 13, 2011
Relevance	What initially began as a complaint alleging that paramedics failed to provide the appropriate standard of care when treating a patient turned into an action against the Province for failing to properly train and equip their paramedics.
Summary	<p>The plaintiff's husband suffered a massive heart attack and was transported by emergency medical attendants from his home to the hospital, where he died several days later. The plaintiff complained to the Ministry of Health about the care given to her husband by emergency medical staff. In particular, she claimed that the emergency medical attendants failed to provide her husband cardio-pulmonary resuscitation at the scene and failed to apply defibrillation to him en route to the hospital since the ambulance was not equipped with a defibrillator. The Ministry conducted an investigation and subsequently issued a report which concluded that acceptable patient care had been given to the plaintiff's husband.</p> <p>The Plaintiff ultimately brought an action against the Province alleging that the Province failed to properly train and equip its emergency medical attendants and that this was a material cause of her husband's death. The Province successfully brought a motion to dismiss the action on the basis that the plaintiff had failed to provide the statutorily mandated 60 days notice before filing an action. This action was the plaintiff's appeal of the motion to dismiss and primarily concerned the interpretation of the statutory provision that requires 60 days notice before launching an action against the Crown. The plaintiff was successful in her appeal.</p>

Title	Re York County Hospital and S.E.I.U., Local 204
Citation	[1992] O.L.A.A. No. 1307
Court	Ontario Labour Arbitration
Source	QuickLaw
Search terms	emergency medical attendant!
Accessed	July 13, 2011
Relevance	Issue was whether a paramedic reporting for duty with alcohol on his breath is grounds for dismissal in the circumstances.
Summary	An ambulance attendant of 10 years grieved his discharge from the hospital for reporting to duty with alcohol on his breath. There was no suggestion that the Grievor was drinking during the shift, but rather, he admitted to consuming beer prior to his shift and reporting to work and performing his duties while under the influence of alcohol. The dispute in

	<p>this case was whether discharge was an appropriate disciplinary action.</p> <p>Significantly, the Grievor had already received a written warning in 1989 and a 5 day suspension in 1991 for having the smell of alcohol on his breath and being under the influence of alcohol, respectively. However, since the discharge the griver has completely ceased drinking and has accepted AA's "Twelve-Step Program".</p> <p>The arbitrator began by stating that "there can be no tolerance of any employee working under the influence of alcohol in an ambulance service" because it "is hard to imagine any job requiring more acute response faculties and ability to function under stress" and alcohol "could easily endanger the lives of patients and fellow driver/attendants". The Arbitrator therefore reasoned that alcohol abuse by a driver/attendant should be <u>prima facie</u> cause for discharge in this sector of work.</p> <p>Despite these strong words, the arbitrator concluded that there was a strong likelihood of successfully re-establishing the employment relationship given that the Grievor had developed a new found ability to cope with stress and his success at alcoholics anonymous. As a result, the arbitrator decided to conditionally reinstate the Grievor. The conditions attaching to this reinstatement included being alcohol-free, attending AA meetings twice a week, re-establishing his relationship with a rehab program, and to submit himself to a drug test upon his return to duty and when the Hospital has reasonable and probable cause to suspect the presence of alcohol.</p>
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Title	Scheerer v. Waldbillig
Citation	[2006] O.J. No. 744
Court	Ontario Superior Court of Justice - Divisional Court
Source	QuickLaw
Search terms	emergency medical attendant!
Accessed	July 13, 2011
Relevance	Issue was whether a Medical Director's decision to decertify a paramedic was sound.
Summary	<p>In the first case in Ontario or Canada considering the certification or decertification of paramedics, the applicant, Melissa Scheerer, brings this application for judicial review to quash and set aside the decision of the respondent, Dr. David Waldbillig, which decertified Ms. Scheerer as a Primary Care Paramedic and Advanced Care Paramedic under the jurisdiction of the Waterloo-Region-Wellington-Dufferin Base Hospital. As a result of the decertification Ms. Scheerer is not certified to perform her job with any ambulance service under the jurisdiction of the Hospital, which is where she lives and is also obliged to inform any other base hospital of her decertification.</p> <p>The decision to decertify Ms. Scheerer was based on two particular complaints involving Ms. Scheerer's performance as a paramedic. The first complaint originated from a patient who complained that the paramedics failed to examine him and that the signature on the Refusal of Service form for the ambulance call report had been forged. The investigation</p>

that followed concluded that these allegations were likely true and Ms. Scheerer completed a remedial program at the Ministry's request. The second complaint regarded an incident involving Ms. Scheerer's performance as a Primary Care Paramedic although the precise details of this complaint were not addressed by the Court.

The Court dealt with the following issues and made the following conclusions with regard to those issues:

1) Does this Court have jurisdiction to review the decision?

- The Court concluded that it has jurisdiction pursuant to the Judicial Review Procedure Act as Dr. Waldbillig exercised a statutory power in reaching the decision.
- Alternatively, the Court concluded that it has jurisdiction because Dr. Waldbillig, as Medical Director of the Hospital, was a public officer performing a public function.

2) In reaching the decision do the principles of natural justice and procedural fairness apply, and if so, were they respected?

- While it is settled that a duty of procedural fairness lies on a public authority making an administrative decision affecting "the rights, privileges or interests of an individual", the content of the duty of fairness is variable and depends on a number of factors, including: the nature of the decision being made, the nature of the statutory scheme, the importance of the decision to the individual or individuals affected, the legitimate expectations of the person challenging the decision, and the choices of procedure made by the agency itself.
- Given that the decision of Dr. Waldbillig is of utmost importance to Ms. Scheerer, as it affected her ability to be employed as a paramedic in the region in which she resides and impacts her ability to work under the certification of another Base Hospital, the Court had little trouble determining that Ms. Scheerer was entitled to procedural fairness.
- However, the Court concluded that Dr. Waldbillig did meet the requirements of procedural fairness. Ms. Scheerer did receive notice of the investigations, she was given an opportunity to meet with Dr. Waldbillig on two occasions and to respond to them, she provided a written statement in response to the first complaint and signed off on a written statement of her partner in response to the second complaint. Ms. Scheerer was provided with written reasons for the decision of Dr. Waldbillig decertifying her and an opportunity to make full written submissions to the Review Committee, which she did with the assistance of legal counsel.
- While no formal hearing was provided, the Court concluded that this was not required.

3) In particular, did the respondent take into account irrelevant information in reaching the decision?

- Ms. Scheerer contends that Dr. Waldbillig failed to consider all relevant factors and considered irrelevant ones, in reaching the Decision. In brief, he did not consider that issues with respect to the first complaint had been resolved through a remedial program; and he relied on unproven and extraneous matters such as the applicant's alleged termination at a previous employment and the untrue belief that she had been driving having her driver's license suspended.
- The Court noted that when applying the reasonableness standard a Court must review the reasons of the tribunal to ascertain whether any of the reasons support the decision. The Court concluded that Dr. Waldbillig did not place undue importance on extraneous matters and that the reasons in the decision are well-founded and supported by

	<p>the evidence.</p> <ul style="list-style-type: none"> This conclusion was reinforced by the Review Boards assessment. The Review Board explicitly excluded from their consideration the extraneous information relating to Ms. Scheerer's driver's license status and termination of her former employment. However, despite excluding these considerations the Review Board confirmed Dr. Waldbillig's decision. <p>4) Did the respondent exhibit bias?</p> <ul style="list-style-type: none"> The Court concluded that there was no merit to the contention that Dr. Waldbillig was biased and held that the decisions of Dr. Waldbillig, as confirmed independently by the Review Committee, are reasonable in the context of the case. <p>The Court concluded that they had jurisdiction to review Dr. Waldbillig's decision to decertify Ms. Scheerer, that Ms. Scheerer was entitled to a duty of fairness, and that the duty of fairness was not breached. Therefore, the Court concluded that there was no substantial wrong or miscarriage of justice and dismissed the application.</p>
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Title	Sensenbrenner Hospital, Kapuskasing v. Service Employees International Union, Local 204 (Mercier Grievance)
Citation	[2002] O.L.A.A. No. 602
Court	Ontario Labour Arbitration
Source	QuickLaw
Search terms	emergency medical attendant!
Accessed	July 13, 2011
Relevance	A paramedic grieved his discharge for failing to pass a program required to comply with the new standards of the Ambulance Act
Summary	<p>The Grievor was working as an ambulance driver when changes to the Ambulance Act and Regulations required paramedics to be EMCA certified and be qualified as emergency medical attendants. The Grievor was not and attempted to upgrade his credentials by registering in the Paramedic Program offered through Cambrian College. Unfortunately, the Grievor failed the program and was subsequently terminated for failing to meet the requirements of a paramedic in accordance with the Ambulance Act. The paramedic grieved unjust termination and the grievance was allowed on the basis that the employer did not establish just cause for discharge since the Grievor had done nothing wrong. The arbitrator held that this case was distinguishable, on that basis, from cases where a paramedic loses their licence or is uninsurable due to bad driving. Therefore, the arbitrator ruled that while the Grievor was no longer qualified to work as a paramedic, there were many other positions and the employer was not prevented by the Ambulance Act or its Regulations from employing the Grievor in any other capacity. Ultimately, the arbitrator concluded that the Grievor was afforded the same rights as any other laid off employee with recall rights.</p>

Title	Re Manitouwadge General Hospital and S.E.I.U., Local 268
Citation	[1992] O.L.A.A. No. 734
Court	Ontario Labour Arbitration
Source	QuickLaw
Search terms	ambulance attendant! AND misconduct
Accessed	July 13, 2011
Relevance	This case concerned whether an employer had just cause to dismiss a paramedic on the basis of several alleged infractions, including a couple of incidents related to patient care and safety including
Summary	<p>A paramedic grieved their dismissal on the basis that the Hospital lacked just cause to terminate their employment. The hospital argued that just cause had been established and raised several infractions which justified dismissal. While the majority of these incidents related to insubordination and causing confrontations with co-workers, a couple of incidents related to patient care and safety including,</p> <ul style="list-style-type: none"> • A written warning for going to the wrong location twice, failing to properly immobilize a leg fracture and improperly treating a spine injury. • A written warning for failing to keep the base well supplied and safe • Two written warnings concerning draining the batteries in an ambulance • Disassembling equipment which compromised patient care. More specifically, the allegation that the Grievor disconnected the oxygen tubing of the suction unit in an ambulance <p>Ultimately the termination resulted primarily from a single incident, and its subsequent fall out, where the Grievor kicked a wall, engaged in violent behaviour, and made disparaging comments about the manager's religious beliefs. However, the aforementioned incidents played a minor role in the arbitrator's ultimate conclusion that while discharge was severe, it was a reasonable disciplinary measure in the circumstances.</p>

Title	RE Municipality of Metropolitan Toronto and Canadian Union of Public Employees, Local 43
Citation	[1978] O.L.A.A. No. 39
Court	Ontario Labour Arbitration
Source	QuickLaw
Search terms	ambulance attendant! AND misconduct
Accessed	July 13, 2011
Relevance	Issue was whether leaving a patient unsupervised in the back of the ambulance was grounds for discipline
Summary	The Grievor, an ambulance attendant, grieved a 2-day suspension following an incident where a patient was not supervised and therefore unnecessarily endangered. Despite the ambulance attendants being aware that the patient

	<p>had been vomiting and was in danger of aspiration they decided, due to the patient's terminal condition, that it was best to leave the and his wife be alone in the back of the ambulance.</p> <p>The Grievor was the driver during this routine transport and it was his partner who violated s.17 of the Rules and Regulations by sitting in the front cab instead of in the back with the patient. However, the Regulations also stipulate that the driver is in charge of the ambulance and therefore, according to the decision, the Grievor also acted contrary to their duties. As the Arbitrator explained, "The risk of serious injury or even death being ever present, it is the duty of each and every driver attendant to do all that is reasonably possible to minimize such risk and to convey the patient to the nearest hospital as quickly as is possible under the circumstances and to ensure that the patient is given such first aid or emergency medical care as his condition requires and circumstances permit". Therefore, the arbitrator concluded that when the other ambulance attendant did not enter the patient compartment as he was required to do by s. 17 of the Rules and Regulations of the Metropolitan Corporation, a duty arose on the part of the Grievor to forthwith request that his partner ride in the patient compartment while the patient was being conveyed to the hospital.</p> <p>Ultimately, given the Grievor's long (26 year) and excellent work record, and the fact that he was deserving of a lesser penalty than his partner (since he was the driver), the Grievor's the grievance was upheld and the suspension was replaced with a letter of warning.</p>
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Title	Chasczewski Estate v. 528089 Ontario Inc. (c.o.b. Whitby Ambulance Service)
Citation	[2011] O.J. No. 2512
Court	Ontario Superior Court of Justice
Source	QuickLaw
Search terms	ambulance attendant! AND negligence or negligent AND professional or profession
Accessed	July 13, 2011
Relevance	Issue was whether paramedics provided the appropriate standard of care to a patient
Summary	<p>This matter was a motion for summary dismissal by the defendants on the basis that expert evidence addresses the appropriate standard of care for primary care paramedics operating in 1996 and causation issues both of which act to defeat the plaintiff's claim. The plaintiffs', who are the surviving husband and children of Mrs. Chasczewski, claim that the defendants (the attending paramedics) failed to provide appropriate care, ultimately resulting in her demise. The expert evidence filed with this motion makes clear that Mrs. Chasczewski's death was caused by severe coronary artery disease leading to a sudden asystolic cardiac arrest. It was noted that the survival rate in Ontario in 1996 for this medical condition was 0.2 percent and that Mrs. Chasczewski's death was not in any way due to the actions of the defendants. It went further to explain that while the survival for this condition increased to 2.4% when treated by advance care paramedics using IV medications and external cardiac pacing and the defendant's were not trained in</p>

	these procedures, advance care paramedics did not start in Ontario until 1998. While the defendant's also filed expert evidence, it was incomplete and failed to address the expert evidence of the plaintiff's. As such, the Court accepted the evidence that Mrs. Chaszewski would unfortunately have died regardless and that her probability of survival was almost non-existent even if she had received the care suggested by the plaintiffs' experts. The Court concluded that the plaintiff had no prospect for success and granted the defendant's motion to summarily dismiss the action.
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Title	Thomas v. Hamilton Board of Education
Citation	[1990] O.J. No. 147
Court	Ontario Supreme Court - High Court of Justice
Source	QuickLaw
Search terms	ambulance attendant! AND negligence or negligent AND professional or profession
Accessed	July 13, 2011
Relevance	Issue was whether a paramedic negligently treated a patient
Summary	<p>Personal injury action by a 16 year old for injuries sustained during a junior high school football game. The action was against the School Board, for failing to warn the plaintiff of the risk of serious injuries, and the first aid responder on the scene for negligently removing the plaintiff's football helmet and exacerbating the injuries. Both actions were dismissed. With regards to the action against the paramedic, the Court dismissed the action on the basis that it was barred by the six-month limitation period contained in s. 11 of the Public Authorities Protection Act, R.S.O. 1980, c. 406. However, because the plaintiffs argued that the School Board is responsible for the actions of the paramedic the Court had to consider any potential negligence on the paramedic's part to determine liability of the School Board. The Court stated that the paramedic on scene was well-trained and responded appropriately by immobilizing the body and the only issue was whether he should have removed the plaintiff's helmet. While it was agreed by all parties that a fully secured helmet should not be removed, the plaintiff's helmet was partially dislodged and there was no literature on the proper procedure for a partially dislodged helmet. The defendant believed that the plaintiff's head was moving within the helmet, that the helmet was not secure, and that it might fall off while putting the plaintiff on the spinal board. The Court found that the paramedic reasonably exercised his professional judgment and took all the appropriate precautions in so doing. Accordingly, the Court found that there was no negligence on the part of the paramedic and that he acted professionally and responsibly. Alternatively, the Court held that even if the paramedic had acted negligently that, according to the weight of the expert evidence, the extent of movement necessary to remove the helmet would not have caused any further functional damage to the plaintiff's spinal cord.</p>

Title	Canadian Union of Public Employees (Toronto Civic Employees Union), Local 416 v. Lauwers
Citation	[2011] O.J. No. 2028
Court	Ontario Superior Court of Justice - Divisional Court
Source	QuickLaw
Search terms	paramedic! AND misconduct
Accessed	July 13, 2011
Relevance	Issue was whether a Coroner's inquest could examine the issue of whether the paramedic strike affected the delivery of emergency medical services to a patient who died and whether the inquest could examine labour relations matters more broadly, including paramedic's right to strike.
Summary	<p>Application by the Union, Local 416, for judicial review of a decision of the Deputy Chief Coroner relating to the inquest into the death of Hearst. Specifically, the Coroner decided that the inquest would explore the issue of whether the paramedic strike affected the delivery of emergency medical services to Hearst and would also explore labour relations matters such as the right of paramedics to engage in a legal strike. The Union's application is remove these issues from the inquest and to limit the scope of the inquest to the facts and circumstances surrounding Hearst's death.</p> <p>Hearst died of an acute myocardial infarction in June 2009 during a legal strike by Toronto's paramedics and emergency medical dispatchers. Although a 911 call was placed and two primary care paramedics were assigned to the call, the paramedics decided not to enter the location until police arrived due to concerns for their health and safety. As a result, there was a delay of 38 minutes from the time an ambulance was first requested until the paramedics attended the scene. According to a review conducted by The Emergency Health Services Branch Unit of the Ministry of Health and Long-Term Care, this delay was caused primarily by the inappropriate decision made by the paramedics to delay their response because of health and safety concerns.</p> <p>The Court allowed the application in part. The Court first determined that there was sufficient evidence to warrant a consideration of the possibility that the strike played a role in the delivery of emergency services to Hearst. In particular, the strike resulted in a 25 per cent reduction in staffing and caused paramedics to work outside their usual quadrants. The paramedics dispatched to Hearst were working outside their usual quadrant and the operations supervisor did not believe that his normal crews, familiar with the area, would have delayed their response to the Hearst call.</p> <p>However, with regards to the inquest examining labour relations matters, such as paramedic's legal right to strike, the Court concluded that the Coroner did not have the expertise to conduct an inquiry into the highly specialized field of labour relations and an inquest was not the appropriate forum for conducting a broad inquiry into the right of paramedics to strike. Therefore, this issue was excluded from the scope of the inquest.</p>

Title	Ontario (5956-MED) (Re)
Citation	[2010] O.L.A.T.D. No. 101
Court	Ontario Licence Appeal Tribunal
Source	QuickLaw
Search terms	paramedic! AND misconduct
Accessed	July 13, 2011
Relevance	A paramedic lost their drivers licence due to substance abuse problems and appealed the revocation of their licence on the basis that they are undergoing treatment.
Summary	This is an appeal to the Licence Appeal Tribunal by the Applicant, a paramedic, respecting a decision of the Registrar of Motor Vehicles to suspend her drivers licence. The applicant's driver's licence, a condition of her eligibility to work as a paramedic, was suspended on the basis of a medical report and assessment, in which the doctor indicated that the Applicant suffered from the medical condition of Addiction (Alcohol, sedatives, tranquillisers, narcotics, etc). The applicant appealed on the basis she is undergoing treatment and has been drug free for several months. While the tribunal sympathized with the applicant's wish to regain her driver's licence, especially since her livelihood depends on it, the tribunal was concerned about her 2 previous relapses and was of the opinion that a further period of rehabilitation time is required. Therefore, the Tribunal confirmed the Registrar's decision.

Title	Ottawa (City) v. Canadian Union of Public Employees (Lauzon Grievance)
Citation	[2009] O.L.A.A. No. 548
Court	Ontario Labour Arbitration
Source	QuickLaw
Search terms	paramedic! AND misconduct
Accessed	July 13, 2011
Relevance	A paramedic was criminally charged with sexually assaulting a patient and the issue was whether the bail conditions precluded continued employment with the City of Ottawa
Summary	The Grievor, a paramedic with over 25 years of service, was criminally charged for sexual assaulting a patient. The Grievor's bail conditions precluded him from working as a paramedic and the employer placed the Grievor on leave without pay. The union grieved, arguing that the employer had an obligation to find the Grievor a job that he could perform that was consistent with his bail restrictions.

	<p>The Arbitrator acknowledged that the criminal charges were quite serious particularly since the alleged acts took place at work while in a position of trust. However, with respect to the issue of whether the employer should have turned its attention to whether there were any vacant jobs, or jobs expected to become vacant, across the bargaining unit, that the Grievor could perform, the Arbitrator sided with the Grievor. This was, in part, because of the Grievor's longstanding service and exemplary record and the fact that the Grievor is presumed by law, and by management, to be innocent of the charges. Accordingly, the Arbitrator decided that the employer is required to objectively assess the Grievor's skill and abilities and determine what vacant or about to become vacant jobs exist that the Grievor can perform with minimal orientation. It was further held that given the nature of the charges, the Grievor, self-evidently, must receive continuous supervision and cannot have direct access to members of the public.</p>
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Title	Thunder Bay (City) v. Canadian Auto Workers, Local 229 (Meinychuk Grievance)
Citation	[2005] O.L.A.A. No. 472
Court	Ontario Labour Arbitration
Source	QuickLaw
Search terms	paramedic! AND misconduct
Accessed	July 13, 2011
Relevance	Issue was whether a paramedic was justly terminated for a series of infractions including a couple related to safety and patient care.
Summary	<p>The Grievor, a paramedic, alleges unjust termination and requests to be reinstated with full compensation. The Grievor has admitted committing the acts which the employer maintains are the basis or reason for his dismissal. The acts committed by the Grievor include:</p> <ul style="list-style-type: none"> • Stole a prescription sheet while on duty and later attempted to fraudulently obtain a prescription; • Lied to a doctor, while on duty, and improperly obtained a prescription for narcotics; • While performing duties as a paramedic, the Grievor provided false information to a 'Sars' screener and disregarded health & safety and infection control procedures by failing to wear an N-95 mask; • A verbal warning for inappropriate and unprofessional behaviour towards a patient; and • two separate written warnings for failure to follow procedure <p>The employer argued that these incidents constituted just cause while the union's position was that the Grievor's conduct can be explained by his addiction to a prescribed medication, Percocet. It further took the position that this addiction must be considered a disability under the Ontario Human Rights Code and that the Grievor has taken sufficient steps to rehabilitate himself and based on that should be reinstated.</p> <p>The Arbitrator first emphasized the seriousness of the incidents warranting discipline in order to appreciate the onus</p>

	<p>that rests with the Grievor to convince this Arbitrator that discharge should not flow from that misconduct. The Arbitrator described the Grievor's conduct as including all the elements of breach of trust, theft and abuse of authority and that there has been a very serious breach in the trust relationship that is fundamental in the employment of a paramedic. With the seriousness of the Grievor's misconduct in mind, the Arbitrator then considered the only explanation the Grievor offered with regard to his misconduct (addiction to Percocet) and found a number of difficulties with the Grievor's reliance upon that explanation. Firstly, the employer was not aware, nor should have been, of any substance abuse problem prior to the incidents in question. Second, the Grievor has failed to provide credible evidence that he was in fact addicted to Percocet. The only evidence of such an addiction was the Grievor's own account, yet multiple drug tests did not reveal the presence of the drug. Without proof that the Grievor was suffering from an addiction to Percocet the Grievor is simply unable to establish that they have an illness under the Human Rights Code that requires accommodation by his employer. Third, and more importantly, the Grievor failed to provide expert evidence to establish the nexus between such an addiction and the Grievor's misconduct. The Arbitrator noted the lack of expert evidence suggesting that an addiction to Percocet would remove any inhibitions or control that the Grievor should otherwise have had with respect to the actions he undertook to acquire the drug by fraudulent means. The Arbitrator ultimately concluded that "[i]n the absence of credible evidence of any mitigating factors for his conduct, we do not find any justifiable reason to interfere with the employer's decision to terminate the Grievor's employment".</p>
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Title	Durham (Regional Municipality) v. Canadian Union of Public Employees, Local 1764 (McComb Grievance)
Citation	[2010] O.L.A.A. No. 656
Court	Ontario Labour Arbitration
Source	QuickLaw
Search terms	paramedic! AND incompetence or incompetent
Accessed	July 13, 2011
Relevance	Issue was whether an employer could implement a new requirement for paramedics and, if so, whether that requirement was reasonable
Summary	<p>Two employees, paramedics, grieved that their employer improperly denied them the right to return to their employment following their leaves of absence contrary to the collective agreement and the Ontario Human Rights Code. The employer implemented a new requirement that paramedics must physically demonstrate the ability to operate the stair chair, which was a standard piece of conveyance equipment but used infrequently. The employer decided to implement this new requirement following an incident where a paramedic broke their leg as a result of not operating the stair chair correctly and a Ministry of Labour Inspector recommended, following the incident, that the employer establish a reasonable frequency for training and competency tests. The issue in this award is whether the Employer is permitted to require paramedics to perform this physical test, and if so, whether the test adopted by the Employer is a reasonable test. The test consisted of lifting a stair chair with a weighted dummy up and down two flights of stairs in six different scenarios.</p>

	<p>With regards to the issue of whether the Employer is permitted to require paramedics to perform this physical test, the Arbitrator noted that the Employer is permitted to require a more rigorous testing process than it has required in the past because there is nothing in the collective agreement that limits the Employer's ability to do so and further that the Employer's reasons for adopting the new test are directly related to its responsibilities, powers and functions conferred upon it by statute. Therefore, the Arbitrator saw the dispute to be primarily about the reasonableness of the stair test. The jurisprudence establishes that in order for a test to be considered to be reasonable, it must meet standards of reliability, validity, relevancy and fairness. (See <i>Re Eastern Provincial Airways</i> and <i>Re Riverdale Hospital</i>). The Arbitrator held that the test is reliable and valid in that it accurately reveals whether or not the employee has the ability to operate the stair chair. While the Tribunal acknowledged that the union was correct in their position that a paramedic would never be required to perform all of the scenarios at one time as required by the test, they still concluded that the test is relevant to the real work of the paramedics in the field because the evidence establishes that any paramedic could be faced with any one of the different scenarios included in the test, which makes each of the different scenarios relevant. Therefore the test satisfied the relevant requirement. Finally, the Arbitrator held that the test is fair because the employees know exactly what is expected of them, understand the standard that they are measured against, and the test is given to all employees under the same conditions and by the same group of facilitators. Ultimately, because the test was reasonable the Arbitrator dismissed the grievances.</p>
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Title	McMillan v. The Corporation of the City of Sarnia et al.
Citation	2011 ONSC 5254
Court	Ontario Superior Court of Justice
Source	QuickLaw
Search terms	emergency medical technician!
Accessed	October 9, 2012
Relevance	Two paramedics were sued for negligently treating a patient.

Summary	<p>The plaintiff was, in the course of his employment, involved in a car accident that left him pinned in his vehicle. Members of the Sarnia Fire Department cut open the cab of the plaintiff's truck and removed the plaintiff at which point he was placed on a stretcher and emergency medical personnel began treating him. The plaintiff alleged that the firemen were negligent in extricating him from his truck, which resulted in the cab collapsing and crushing his legs. The plaintiff also sued Todd Martin and Jessica Maitland, the paramedics on the scene, for allegedly being negligent when they treated him after he was removed from the cab. The plaintiff alleges that as a result of the paramedics' negligence he suffered aggravation of his physical and emotional injuries.</p> <p>The defendants, The Corporation of the Town of Lambton, The County of Lambton Emergency Medical Services, Todd Martin and Jessica Maitland move for an order granting summary judgment dismissing the plaintiff's action against them on the grounds that it is barred by s. 28 of the <i>Workplace Safety and Insurance Act</i>, S.O. 1990 c. 16, Schedule A.</p> <p>Section 28 of the <i>Workplace Safety and Insurance Act</i> provides that a worker employed by a Schedule I employer who sustains an injury that entitles him to benefits under the <i>Act</i> is not entitled to commence any action against a Schedule I employer or worker employed by a Schedule I employer. Given that the accident occurred during the course of the plaintiff's employment with a Schedule I employer, the Court held that the plaintiff had no cause of action against The Corporation of the Town of Lambton, The County of Lambton Emergency Medical Services, Todd Martin and Jessica Maitland. Accordingly, the Court dismissed the plaintiff's action as against those defendants.</p>
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Title	Chaszewski v. 528089 Ontario Inc.
Citation	2012 ONCA 97
Court	Ontario Court of Appeal
Source	QuickLaw
Search terms	Paramedic! AND negligence or negligent
Accessed	October 9, 2012
Relevance	Two paramedics were sued for negligently treating a patient.

Summary	<p>Frank Webster and Robert Werner, two paramedics with the Whitby Ambulance Service, responded to a 9-1-1 call that a woman (Mrs. Chaszewski) was choking and was unresponsive. They arrived at the Chaszewski's home promptly, but remained there for at least 12 minutes before transporting Mrs. Chaszewski to the emergency department of the local Whitby hospital. Mrs. Chaszewski went into cardiac arrest while in the back of the ambulance, could not be revived, and was pronounced dead at the hospital.</p> <p>The Chaszewski family sued the two paramedics, the ambulance service and its owner, William Cocker, for negligence. They allege that the paramedics negligently failed to transport Mrs. Chaszewski to the hospital soon enough and that had they done so Mrs. Chaszewski would have survived.</p> <p>The successfully brought a motion for summary judgement to dismiss the claim. The motion judge held that there was no genuine issue for trial because even if the paramedics had breached their standard of care Mrs. Chaszewski would have died anyway (i.e. their negligence did not cause Mrs. Chaszewski's death). The plaintiff's appealed the summary judgment dismissing their action.</p> <p>The Court of Appeal determined that the motion judge erred in relying on the opinion of the defendants' expert, which did not address the plaintiffs' theory of the case. The Court determined that a trial would be required to fully appreciate the evidence on the issue of causation. Accordingly, the Court of Appeal allowed the appeal and set aside the summary judgment granted by the motion judge.</p>
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Title	R. v. Lauzon
Citation	2011 ONSC 7179
Court	Ontario Superior Court of Justice
Source	QuickLaw
Search terms	Paramedic! AND misconduct
Accessed	October 9, 2012
Relevance	The application in this case stems from allegations that a paramedic sexually assaulted a patient in the back of an ambulance while transporting her to the hospital.

Summary	<p>This case concerns an application by Jean Lauzon for an order that the statements made to the Ottawa Police and the Ottawa Paramedic Service (the "OPS") are involuntary and inadmissible. Specifically, Mr. Lauzon is seeking to have the mandatory Incident Report Mr. Lauzon gave to the OPS pursuant to the <i>Ambulance Act</i> and the videotaped statement that he subsequently gave to the Police on June 21, 2009 declared inadmissible.</p> <p>Mr. Lauzon is a paramedic who received a call that the complainant was having a stroke. It is alleged by the complainant that Mr. Lauzon sexually assaulted her in the back of the ambulance while he was treating her on route to the hospital. Upon arriving at the hospital the complainant disclosed her allegations against Mr. Lauzon to two nurses. At this point Mr. Lauzon was required to complete an incident report. Six hours later, after being cautioned and receiving the advice of counsel, Mr. Lauzon made a videotaped statement to the Police to record his version of events.</p> <p>The Court held that the Incident Report was tainted and declared them inadmissible. However, the Court concluded that the videotaped statement was not tainted by the tainting features which disqualified the Incident Report and therefore the videotaped statement was admissible.</p>
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Saskatchewan

Title	Boos v. Regina (Police Commission)
Citation	[2006] S.J. No. 240
Court	Saskatchewan Court of Queen's Bench
Source	QuickLaw
Search terms	emergency medical technician!
Accessed	July 8, 2011
Relevance	Case concerned the aftermath of a paramedic being terminated as a result of their affiliation with the Hells Angels.
Summary	<p>Application by the defendants, the Regina Board of Police Commissioners and its deputy police chief, to strike out the statement of claim of Boos, who was employed as an emergency medical technician by the Regina Qu'Appelle Regional Health Authority. Boos was involved with the Hell's Angels Motorcycle Club and the Health Authority learnt about Boos' involvement and obtained information from the deputy police chief about the Hell's Angels. The Chief expressed concerns about this involvement and feared Boos would be unable to properly treat injured police officers. The Health Authority subsequently terminated Boos employment after Boo refused to cease his involvement with the organization. Boos sued the defendants for inducing the breach of his employment contract and the Defendant submitted that the termination of Boos' employment contract was governed by his collective bargaining agreement and was outside of the Court's jurisdiction. The Court allowed the application and struck out the claim because the action</p>

	was clearly based on the termination of the employment relationship and was governed by the grievance procedure of the agreement and the arbitration process under the Trade Union Act. These were the only procedures available to an employee who lost his employment and therefore the Court lacked jurisdiction in this matter.
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Newfoundland & Labrador

Title	R. v. Carey
Citation	[2012] N.J. No. 237
Court	Newfoundland and Labrador Provincial Court
Source	QuickLaw
Search terms	emergency medical responder!
Accessed	October 9, 2012
Relevance	A paramedic was charged with sexual assault for allegedly sexually assaulting a co-worker.
Summary	<p>Mr. Carey, a paramedic, was charged with the offence of sexual assault. Allegedly, Mr. Carey sexually assaulted a co-worker, Ms. K, who drove an ambulance and assisted the paramedics. Ms. K testified that Mr. Carey and herself stopped the ambulance to have a cigarette at which point she indicated to him that she was having trouble breathing and he properly examined her chest and back with a stethoscope. Ms. K testified that they then got back into the ambulance and drove away. The aforementioned events were confirmed by Mr. Carey's testimony. She stated that as they were driving Mr. Carey said he was going to pull the ambulance over to the side of the road so that he could check her breathing again. Ms. K testified that this time when Mr. Carey was examining her he did so in a sexual manner. Specifically, Ms. K testified that Mr. Carey unbuttoned her blouse, touched her sexually, made sexual remarks to her, and took her hand and touched his penis with it. Mr. Carey denied these allegations and testified that he pulled over the second time to speak to Ms. K. about her poor work performance and that nothing of a sexual nature took place.</p> <p>The Court held that there was no logical basis to reject Mr. Carey's evidence as his description of what occurred at the gravel pit contained no elements which are nonsensical, illogical or which were established as false. Therefore, the Court concluded that the Crown failed to prove beyond a reasonable doubt that Mr. Carey sexually assaulted Ms. K and acquitted Mr. Carey of sexual assault.</p>

Appendix A: Description of Databases

LexisNexis Quicklaw

LexisNexis Quicklaw offers access to a collection of databases including case law from all Canadian jurisdictions, administrative tribunal decisions, legislation and legal commentary in the form of texts, journals, newsletters and indexes. In addition to Canadian materials, LexisNexis Quicklaw includes American case law and legislation and selected U.K. and Commonwealth judgments. Decisions are in the form of digests or full text. They may be either electronic versions of printed reports (e.g., *Ontario Reports*) or unreported current judgments¹ as received directly from the courts.

¹ Unreported full text judgements from Canadian courts can be accessed through the "All Canadian Court Cases" group source. (QuickLaw Source Information)

Appendix B: Search Results:

The below table lists the search terms used for each province, the total number of results the search yielded, the number of relevant results, the list of relevant results, and a description of the relevant cases. Significantly, the cases labeled in green were selected to be summarized further and are included in the Summary of Findings section while the cases labeled in red were not. It is important to note that all searches were performed with "AND NOT" followed by each preceding search in order to avoid duplication of results. Additionally, "(sub)" indicates that the search is a subsearch of the previous search.

ALBERTA – searched on July 8, 2011

<u>Search</u>	<u>Total</u>	<u>Relevant</u>	<u>Relevant Case Name</u>	<u>Description of Case</u>
	<u>Results</u>	<u>Results</u>		
emergency medical attendant!	1	0		
emergency medical responder!	15	1		
			Edmonton (City) v. Canadian Union of Public Employees, Local 3197 (Sagstuen Grievance) [2007] A.G.A.A. No. 68	Termination for omitting previous employers from his employment history in job application
ambulance attendant!	77	2		
			Calgary (City) v. Canadian Union of Public Employees, Local 3421 (Gee Grievance) [2001] A.G.A.A. No. 72	Fatality due to failure to conduct medical assessment
			Shackleton v. Knittle 1999 ABQB 539	Alleged paramedic negligence b/c of instructions to patient
emergency medical technician!	53	4		
			Calgary (City) v. Paramedic X [1995] A.J. No. 1224	Application regarding the powers of a medical director – whether they could prevent a paramedic from engaging in patient care and thus overriding employer/regulator decision that paramedic was competent
			Calgary (City) v. Paramedic X [1999] 3 W.W.R. 509	Appeal of 1995 case
			Edmonton (City) v. Canadian Union of Public Employees, Local 3197 (Sagstuen Grievance) [2007] A.G.A.A. No. 68	Supplement to other Sangstuen grievance (see above) – addresses remedy
			Peace Regional Emergency Medical Services Society v. Health Sciences Assn. of Alberta (Wilson Grievance) [2003] A.G.A.A. No. 67	Paramedic alleged to have inappropriate physical contact with patients
paramedic!	375			
(sub) - misconduct	35	1		
			Brooks Health Centre v. Health Sciences Assn. of Alberta (Mytrunec Grievance) [1995] A.G.A.A. No. 50	Dismissal for harassment and verbal abuse of colleague
(sub) - negligence or negligent	58	2		

			Calgary (City) v. Canadian Union of Public Employees, Local 3421 (Mackenzie Grievance) [2005] A.G.A.A. No. 89	Grievance that suspension for crashing ambulance (while not on call or with patient) was excessive
			R. v. Burns [1993] A.J. No. 998	Criminal action against a person who forged credentials to secure various positions and may have taught incorrect procedures to paramedic students
(sub) - incompetence or incompetent	3	0		

BRITISH COLUMBIA – searched on July 11, 2011

<u>Search</u>	<u>Total</u>	<u>Relevant</u>	<u>Relevant Case Name</u>	<u>Description of Case</u>
	<u>Results</u>	<u>Results</u>		
emergency medical attendant!	14	9		
			British Columbia Ambulance Service v. Ambulance Paramedics of British Columbia (Snider Grievance) [2003] B.C.C.A.A.A. No. 69	Grievance regarding suspension imposed for alleged verbal abuse against patient
			Emergency Health Services Commission and Ambulance Paramedics of British Columbia, CUPE Local 873 [1997] B.C.C.A.A.A. No. 752	Alleged cheating during an employment related exam
			Emergency Health Services Commission and Ambulance Paramedics of British Columbia (Bryant Grievance) [1999] B.C.C.A.A.A. No. 191	Grievance regarding dismissal for bullying in the workplace
			Emergency Health Services Commission v. Ambulance Paramedics of British Columbia, Canadian Union of Public Employees, Local 873 (Dunbar Grievance) [1986] B.C.C.A.A.A. No. 172	Grievance of dismissal for the commission of crimes while off duty
			Emergency Health Services Commission v. Ambulance Paramedics of British Columbia, Canadian Union of Public Employees, Local 873 (Falkoski Grievance) [2001] B.C.C.A.A.A. No. 139	Grievance for termination relating to the allegation of forged timesheets
			Emergency Health Services Commission v. Ambulance Paramedics of British Columbia (Janas Grievance) [2003] B.C.C.A.A.A. No. 365	Grievance relating to dismissal for among other things repeatedly failing to respond to pages
			Emergency Health Services Commission v. C.U.P.E., Local 873 [1987] B.C.C.A.A.A. No. 342	Issue is appropriate disciplinary action for paramedic allegedly failing to provide a sufficient level of care
			RE Emergency Health Services Commission and Ambulance Paramedics of British Columbia, C.U.P.E., Local 873 [1987] B.C.C.A.A.A. No. 391	Grievance of dismissal for the commission of crimes while off duty
			Taylor (Re) [1999] B.C.L.R.B.D. No. 57	Case against union for failing to properly represent in above grievance relating to alleged cheating during a test
emergency medical responder!	10	0		

ambulance attendant!	608			
(sub) - misconduct	35	6		
			Edgar v. Richmond (Township) [1991] B.C.J. No. 598	Alleged negligence against paramedics for waiting for police before entering into a hostile environment
			Emergency Health Services Commission and C.U.P.E., Loc. 873, Re [1988] B.C.C.A.A.A. No. 27	Termination of paramedic following a sexual assault conviction arising from events while he was off duty
			Emergency Health Services Commission v. Ambulance Paramedics of British Columbia, Canadian Union of Public Employees, Local 873 (Lalli Grievance) [1986] B.C.C.A.A.A. No. 86	Grievance from a reprimand for providing patient care below the required standard
			Emergency Health Services Commission v. Ambulance Paramedics of British Columbia C.U.P.E. Local 873 [1993] B.C.C.A.A.A. No. 347	Termination relating to allegations of forged timesheets
			R. v. Husereau [2009] B.C.J. No. 571	Criminal matter relating to a paramedic sexually assaulting a patient
			R. v. M.E.H. [2009] B.C.J. No. 2053	Criminal matter relating to a paramedic sexually assaulting a patient
(sub) - negligence or negligent	251			
(sub) (sub) - dismissal or dismiss	48	0		
(sub) (sub) - terminate or grievance	6	0		
(sub) (sub) - "standard of care"	55			
(sub) (sub) (sub) - professional or profession	21	1		
			Davidson v. British Columbia [1996] 1 W.W.R. 137	Allegation of negligence against paramedics for falling below standard of care required
(sub) - incompetence or incompetent	6	0		
emergency medical technician!	3	0		
paramedic!	771			
(sub) - misconduct	63	2		
			Daley v. Emergency and Health Services Commission [2008] B.C.H.R.T.D. No. 63	Case concerns allegations of discrimination due to disability, but mentions discipline of same paramedic in relation to conduct towards a patient (paramedic did not dispute conduct or discipline)
			Emergency Health Services Commission and Ambulance Paramedics of British Columbia, CUPE Local 873 (Belway Grievance) [1998] B.C.C.A.A.A. No. 250	Grievance for discipline arising from paramedic giving false medical condition of patient to dispatcher
(sub) - negligence or negligent	112			
(sub) (sub) - terminate or grievance	14	0		
(sub) (sub) - dismissal	8	0		
(sub) (sub) - "standard of care"	30	1		

			Battrum v. British Columbia [2009] B.C.J. No. 1074	Allegation that paramedic was negligent and provided care below acceptable standard
(sub) - incompetence or incompetent	8	0		

MANITOBA – searched on June 17, 2011

<u>Search</u>	<u>Total</u>	<u>Relevant</u>	<u>Relevant Case Name</u>	<u>Description of Case</u>
	<u>Results</u>	<u>Results</u>		
ambulance attendant!	67	1		
			Bodnarek v. Health Sciences Centre [2004] M.J. No. 401	Alleged negligence of Ambulance attendants for failing to appreciate the nature of the patient's injuries and as a result not bringing her to a hospital, which led to further damages
emergency medical responder!	3	0		
emergency medical technician!	1	0		
emergency medical attendant!	2	0		
paramedic!	364			
(sub) - misconduct	17	1		
			Manitoba Government and General Employees' Union v. Interlake Regional Health Authority (Cadger Grievance) [2005] M.G.A.D. No. 80	Grievance that a suspension was too severe a punishment for an alleged incident of harassment in the workplace (directed towards another employee)
(sub) - risk	78	1		
			Harder Estate (Re) [2003] M.J. No. 315	Inquest to determine the circumstances of five-year-old Harder's death and to determine what could be done to prevent similar deaths from occurring in the future. Paramedics were involved in the inquest because the paramedics who arrived were not of a high enough level to administer necessary drugs.

NEW BRUNSWICK – searched on June 17, 2011

<u>Search</u>	<u>Total</u>	<u>Relevant</u>	<u>Relevant Case Name</u>	<u>Description of Case</u>
	<u>Results</u>	<u>Results</u>		
ambulance attendant!	56	5		
			Beal v. Grant [1983] N.B.J. No. 85	Action for wrongful dismissal – employer said they dismissed paramedic for failing to report to work one day and the paramedic claimed that it was a mere misunderstanding with regards to when he was taking his vacation days
			Beal v. Grant [1984] N.B.J. No. 77	Appeal of the above decision

			New Brunswick (Board of Management) v. Canadian Union of Public Employees, Local 1252 [1990] N.B.P.S.L.R.D. No. 4	Employer alleged that the ambulance attendants were on an illegal strike. The ambulance attendants were still responding to emergency calls but were refusing to perform their 'orderly' duties (in-hospital tasks, such as assisting nursing staff in the emergency department)
			Price v. St. John Ambulance, New Brunswick Council [1997] N.B.J. No. 169	Application to quash the decision of St. John Ambulance for expelling Price from the ambulance attendant course because of allegations of cheating at an exam
			R. v. Léger [1999] N.B.J. No. 43	Appeal of a conviction for sexual assault. The charge resulted from a patient complaining that the paramedic (Léger) touched her sexually while transporting her to the hospital following an accident
emergency medical responder!	0			
emergency medical attendant!	1	1		
			Canadian Union of Public Employees, Local 1252 v. Atlantic Health Sciences Corp. (Mesereau Grievance) [2009] N.B.L.A.A. No. 11	Grievance that a position should have been awarded to the grievor because they were the most senior candidate. It was not offered to the grievor because they lacked certain qualifications (particular courses). Grievance dismissed because they required skills for the position were reasonable
emergency medical technician!	16	2		
			Canadian Union of Public Employees, Local 1252 v. Region 7 Hospital Corp. (Butler Grievance) [2000] N.B.L.A.A. No. 20	Grievance of a dismissal, which was based on the paramedic in question responding to a call the morning after his birthday with alcohol on his breath
			Harnish v. Region 3 Hospital Corp. [1997] N.B.L.A.A. No. 10	Grievance of a dismissal, which was based on failure to notify the employer of an intended absence from work
paramedic!	68	0		

NEWFOUNDLAND AND LABRADOR— searched on June 17, 2011

<u>Search</u>	<u>Total</u>	<u>Relevant</u>	<u>Relevant Case Name</u>	<u>Description of Case</u>
	<u>Results</u>	<u>Results</u>		
paramedic!	34	0		
emergency medical technician!	0			
emergency medical attendant!	2	0		
emergency medical responder!	1	0		
ambulance attendant!	41	0		

NOVA SCOTIA— searched on June 17, 2011

<u>Search</u>	<u>Total</u>	<u>Relevant</u>	<u>Relevant Case Name</u>	<u>Description of Case</u>
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	Results	Results	
paramedic!	74	1	
			Children's Aid Society of Halifax v. S.G. [2000] N.S.J. No. 291
emergency medical technician!	6	0	
emergency medical attendant!	2	0	
emergency medical responder!	2	0	
ambulance attendant!	54	1	
			Mahon v. Nova Scotia (Attorney General) [1986] N.S.J. No. 65
			Application for child custody following the removal of the child from the home because of abuse. Parents responded to allegations of abuse by suggesting that the paramedics bruised the baby on transport to the hospital. However, the substantial evidence makes this suggestion difficult to believe.
			Ambulance attendant sued a driver of a vehicle for causing a motor vehicle accident in which the ambulance attendant was injured. While the ambulance was being driven lawfully and the plaintiff was drunk, the ambulance attendant should have seen him coming and therefore was 25% contributorily negligent. 75% of damages awarded to ambulance attendant

ONTARIO – searched on July 13, 2011

Search	Total	Relevant	Relevant Case Name	Description of Case
	Results	Results		
emergency medical attendant!	32	9		
			Kingston Ambulance Service and O.E.S.E.U., Loc. 462, Re [1992] O.L.A.A. No. 49	This was a grievance by two ambulance attendants that arose out of orders by management that the grievors should mop the hallway of the ambulance station
			Mattick, as Executor of the Estate of James Mattick et al. v. Her Majesty the Queen in Right of Ontario as represented by the Minister of Health et al. [Indexed as: Mattick Estate v. Ontario (Minister of Health)] [2001] O.J. No. 21	An appeal from a motion to dismiss regarding a case where it is alleged that paramedics provided substandard care to a patient
			North Bay General Hospital v. Canadian Union of Public Employees, Local 139 (Cameron Grievance) [1997] O.L.A.A. No. 321	Grievance regarding a paramedic being discharged for a conviction of fraud for offences related to off-duty conduct
			North Bay General Hospital v. Canadian Union of Public Employees, Local 139 (Kotsopoulos Grievance) [2003] O.L.A.A. No. 580	Paramedic grieved his suspension for refusing to comply with the legal requirement to get a flu shot
			Re Huntsville District Hospital and S.E.I.U. [1992] O.L.A.A. No. 611	Preliminary issue about whether hospital could raise absenteeism in regards to dismissal of paramedic, who was originally terminated for a conviction of sexual assault. An incident which involved his actions towards his colleagues.

			Re Kitchener Waterloo Regional Ambulance (1987) Inc. and C.U.P.E., Local 791 [1993] O.L.A.A. No. 833	Grievance of termination relating to harassing and discriminating behaviour towards a colleague
			Re York County Hospital and S.E.I.U., Local 204 [1992] O.L.A.A. No. 1307	Case relates to whether discharge of paramedic was an appropriate disciplinary action for reporting to duty while intoxicated from alcohol
			Scheerer v. Waldbillig [2006] O.J. No. 744	Judicial review of decision to de-certify a paramedic following several complaints from patients
			Sensenbrenner Hospital, Kapuskasing v. Service Employees International Union, Local 204 (Mercier Grievance) [2002] O.L.A.A. No. 602	Grieved his dismissal for failing to meet the qualifications to be a paramedic following him failing his upgrade exam
emergency medical responder!	2	0		
ambulance attendant!	795			
(sub) - misconduct	60	8		
			Hanover & District Hosp. and London & District Service Workers' Union, Loc. 220, Re [1987] O.L.A.A. No. 98	Grievance for termination without just cause. Paramedic was terminated for not suitably performing the nursing component of their duties (in hospital nursing responsibilities). Largely, it was alleged that he had an attitude problem and tried to get out of nursing duties however possible and talked his colleagues into doing the same
			Metropolitan Toronto (Municipality) and Metropolitan Toronto Civic Employees Union, Loc. 43, Re [1988] O.L.A.A. No. 112	Case involving an ambulance attendant dismissed for theft arising from improper use of company credit cards
			Re Anson General Hospital and S.E.I.U., Local 478 [1996] O.L.A.A. No. 1066	Grievance of termination without just cause. Termination was caused by the paramedic persistently failing to report for a scheduled shift
			RE Coburg & District Ambulance Service and Ontario Public Service Employees Union, Local 344 [1985] O.L.A.A. No. 86	Grieving 2 day suspension for violating the rule that does not allow employees to ride motorcycles to work
			Re Kitchener Waterloo Regional Ambulance and C.U.P.E., Local 791 [1993] O.L.A.A. No. 784	Grievance of termination for allegedly failing to respond to a call and insubordination
			Re Manitouwadge General Hospital and S.E.I.U., Local 268 [1992] O.L.A.A. No. 734	Grievance of dismissal, where grounds for dismissal included several incidents including substandard patients care
			RE Municipality of Metropolitan Toronto and Canadian Union of Public Employees, Local 43 [1978] O.L.A.A. No. 39	Grievance of 2 day suspension following an incident where a patient was not properly supervised
			Thames Emergency Medical Services Inc. v. Ontario Public Service Employees Union, Local 417 (Larocque Grievance) [2007] O.L.A.A. No. 259	Grievance alleging unjust discipline relating to threatening and intimidating conduct towards colleagues
(sub) - negligence or negligent	155			
(sub) (sub) - professional or profession	57	2		
			Chasczewski Estate v. 528089 Ontario Inc. (c.o.b. Whitby Ambulance Service) [2011] O.J. No. 2512	Alleged that an ambulance attendant did not provide appropriate care
			Thomas v. Hamilton Board of Education [1990] O.J. No. 147	Alleged that an ambulance attendant was negligent in the treatment of a patient
(sub) - incompetence or incompetent	7	0		

emergency medical technician!	2	0		
paramedic!	1773			
(sub) - misconduct	83	10		
			Canadian Union of Public Employees (Toronto Civic Employees Union), Local 416 v. Lauwers [2011] O.J. No. 2028	Judicial review of coroner's inquest decision to explore labour matters such as the right of paramedics to engage in a legal strike and whether the strike affected the treatment of the death of the individual in question
			Hamilton (City) v. Ontario Public Service Employees Union (McCord Grievance) [2008] O.L.A.A. No. 280	Grievance regarding suspensions for both sending an inappropriate email regarding his concerns of employment conditions and using profanity against members of the public while at work (towards other drivers on the road)
			Northumberland County v. Ontario Public Service Employees Union, Local 344 (Sterling Grievance) [2010] O.L.A.A. No. 599	Grievance for suspension related to sending a derogatory and insubordinate email to his supervisors
			Ontario (5956-MED) (Re) [2010] O.L.A.T.D. No. 101	An appeal to the decision to suspend her licence because of a drug addiction problem. Until she regains her licence she is unable to work as a paramedic
			Ottawa (City) v. Canadian Union of Public Employees (Lauzon Grievance) [2009] O.L.A.A. No. 548	Grievance of decision to put paramedic on leave without pay pending the decision of criminal charges relating to alleged sexual assault of a patient
			Ottawa (City) v. Canadian Union of Public Employees (Lauzon Grievance) [2009] O.L.A.A. No. 560	The interim order for the above case
			Ottawa (City) v. Canadian Union of Public Employees, Local 503 (Beland Grievance) [2011] O.L.A.A. No. 89	The employee, a paramedic, grieved that he had been unjustly dismissed for incomplete submission and non-submission of ambulance call reports and shift packages
			Service Employees International Union Local 1.ON v. Sun Parlour Emergency Services (Hettrick Grievance) [2009] O.L.A.A. No. 27	Grievance of a paramedic's discharge based on the allegation that she left her work station to go have dinner with her husband at a restaurant – and therefore put the public at risk
			Simcoe (County) Paramedic Services Sector 1 - Ambulance v. Ontario Public Service Employees Union, Local 303 (Wright Grievance) [2008] O.L.A.A. No. 693	Grievance for being discharged for failing to provide proof of immunization in a timely manner
			Thunder Bay (City) v. Canadian Auto Workers, Local 229 (Melnchuk Grievance) [2005] O.L.A.A. No. 472	Grievance relating to a dismissal on the basis of several grounds including relating to patient interaction, not following safety protocols, and stealing prescriptions pads to fraudulently obtain prescriptions
(sub) - negligence or negligent	93			
(sub) (sub) - professional or profession	40	0		
(sub) - incompetence or incompetent	12	1		
			Durham (Regional Municipality) v. Canadian Union of Public Employees, Local 1764 (McComb Grievance) [2010] O.L.A.A. No. 656	Paramedic grieved the refusal to allow them to return to work following a leave of absence for failing to meet a new requirement. New requirement was passing a test of carrying a dummy in a stair chair up and down 2 flights of stairs in 6 different scenarios

PRINCE EDWARD ISLAND – searched on June 17, 2011

<u>Search</u>	<u>Total</u>	<u>Relevant</u>	<u>Relevant Case Name</u>	<u>Description of Case</u>
	<u>Results</u>	<u>Results</u>		
paramedic!	2	0		
emergency medical technician!	1	0		
emergency medical attendant!	0			
emergency medical responder!	0			
ambulance attendant!	2	0		

SASKATCHEWAN – searched on July 8, 2011

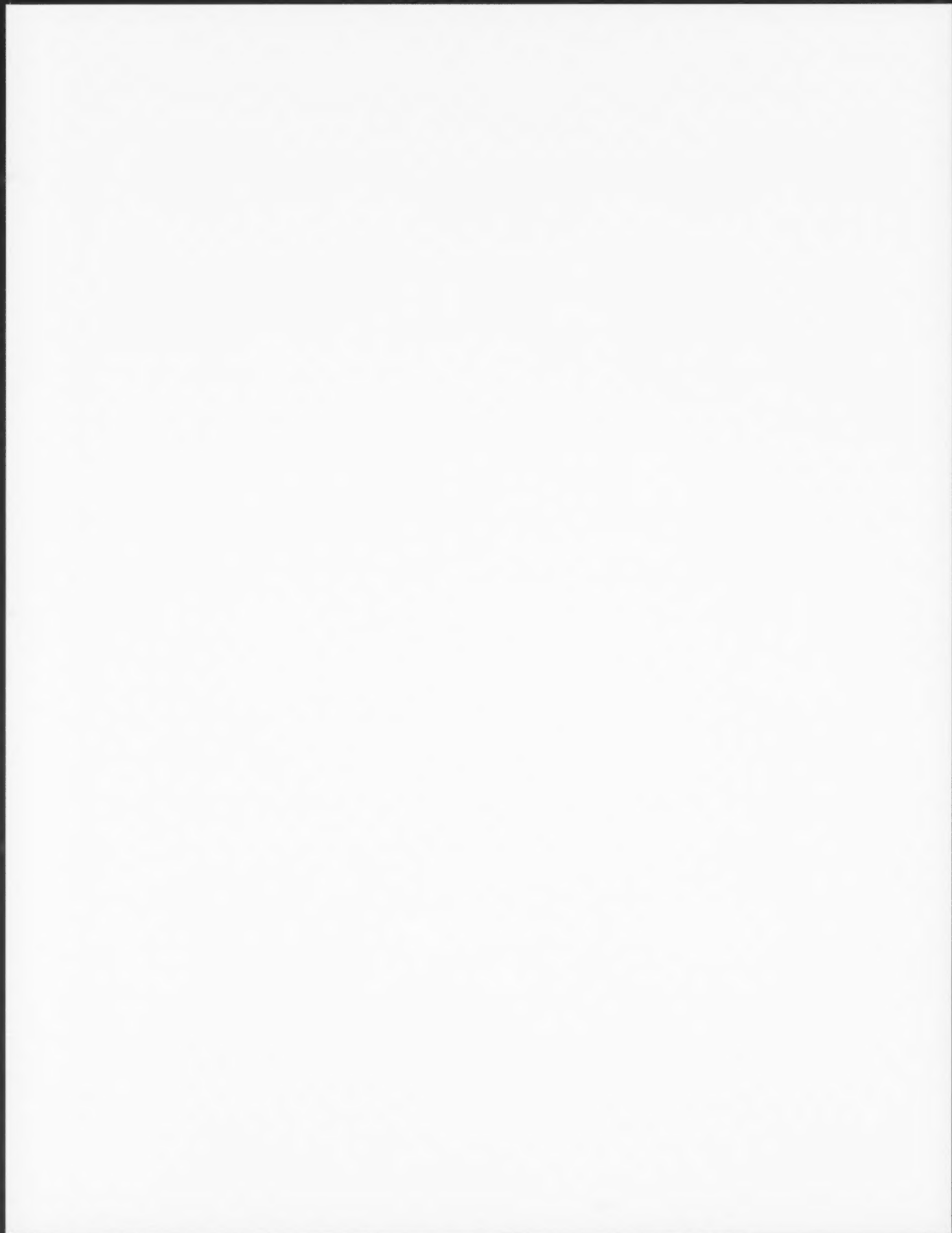
<u>Search</u>	<u>Total</u>	<u>Relevant</u>	<u>Relevant Case Name</u>	<u>Description of Case</u>
	<u>Results</u>	<u>Results</u>		
emergency medical attendant!	0			
emergency medical responder!	3	0		
ambulance attendant!	49	0		
emergency medical technician!	32	5		
			Boos (Re) [2008] S.L.R.B.D. No. 15	Action against union for failing to represent this emergency medical technician when he was dismissed for being associated with the Hells Angels
			Boos v. Regina (Police Commission) [2006] S.J. No. 240	Action against the police for inducing breach of contract because they expressed concern with the health authority with the plaintiff's affiliation with the Hells Angels and questioned his ability to properly treat police officers who might require medical treatment.
			Fox v. Souris Ambulance (1989) Ltd. [1993] 2 W.W.R. 79	Case was whether paramedics dismissal was justified where the paramedic refused to follow instructions and transport a patient to the hospital. He rejected because he refused to work with the other employee in the ambulance.
			Ratzlaff v. Medstar Ventures Inc. [2006] S.J. No. 218	Action for wrongful dismissal. Employer alleges that she was fired for delays in response time and insubordination. Court held that the single incident of delayed response time did not justify dismissal
			Service Employees' International Union, Local 299, Applicant, and LifeLine Ambulance Service Ltd., Respondent [1993] S.L.R.B.D. No. 73	Alleged that employee was terminated unjustly because of his involvement in unionizing the labour force. Employer argued it was because of insubordination.
paramedic!	36	0		

ALL JURISDICTIONS – searched on October 9, 2012 spanning the past 15 months (August 9, 2011 to October 9, 2012)

<u>Search</u>	<u>Total</u>	<u>Relevant</u>	<u>Relevant Case Name</u>	<u>Description of Case</u>
	<u>Results</u>	<u>Results</u>		
emergency medical attendant!	2	0		
emergency medical responder!	3	1	R. v. Carey [2012] N.J. No. 237	Paramedic was charged with sexual assault. It was alleged that the paramedic sexually assaulted a patient in the back of the ambulance while conducting a medical examination. The paramedic was acquitted of the charges because the complainant's testimony included major inconsistencies and, as a result, the Crown failed to prove beyond a reasonable doubt that the paramedic committed the offence.
ambulance attendant!	77	5	Scoates v. Dermott 2012 BCSC 485	A paramedic brought an action against three individuals with whom he had been involved in traffic accidents. Through the cumulative injuries he suffered in these successive accidents he was rendered permanently disabled and no longer able to work as a paramedic. His actions against the defendants were successful and they were liable for damages flowing from his injuries, including his lost income as a paramedic.
			R. v. Ziegler 2012 BCCA 353	Appeal by Ziegler from his designation as a dangerous offender. The predicate offence was a sexual assault committed by Zeigler on a female ambulance attendant when the ambulance attendant was transporting him to hospital.
			R. v. Dixon 2012 ONSC 3438	Dixon and some of his associates were charged with conspiracy to import cocaine and conspiracy to launder the proceeds of their crimes. Among the allegations made was their involvement in a conspiracy to smuggle 30kg of cocaine in an air ambulance (medivac) transporting Canadian patients from Panama back into Canada. The paramedics were not charged with conspiracy and based on the case it appeared as though they were not aware of the plan – it was the pilot that was involved in the conspiracy with the charged individuals.
			Decision No. 2329/10 2012 ONWSIAT 1287	A paramedic was off-duty attending a local festival when he witnessed a member of the public collapse. The paramedic assisted the person and when an ambulance arrived, he assisted the on-duty paramedics with the patients care. While providing assistance, the paramedic suffered an injury to his arm. The paramedic was denied Workers' Compensation because he was not in the course of his employment at the time of the incident. This case is the paramedic's appeal of the decision to deny him entitlements under Workers' Compensation.
			Bauer v. Toronto (City) 2011 HRT0 1628	Bauer, an ambulance attendant, crossed a picket line during one of his strike shift when his union went on strike. He believed his decision to cross the picket line would be confidential, however, other union members found out and Bauer claims that he has been harassed and reprisal against for not participating in the strike. Bauer alleged that he was discriminated against on the basis of his creed because his reasons

				for crossing the picket line were connected with his Christian faith (i.e. his faith prevented him from denying medical care for financial gain). The Court rejected Bauer's assertion that he crossed the picket line because of his creed and on that basis found that the human Rights Code was not engaged and therefore his application was dismissed.
emergency medical technician! paramedic!	9 401	1	McMillan v. Samia (City) 2011 ONSC 5254	Plaintiff was involved in a serious car accident and alleges that he suffered an aggravation of his physical and emotional injuries due to the negligence of the defendants. Specifically, he alleges that the defendant firefighter negligently extracted him from the cab of his truck and the defendant paramedics negligently treated him after he was removed from the cab of his truck.
(sub) – misconduct	39	3	R. v. Lauzon 2011 ONSC 7179	Mr. Lauzon brought this application to have statements he made to the Ottawa Police and Ottawa Paramedic Service be declared involuntary and inadmissible. The application was in connection to Mr. Lauzon's charge for sexual assault. It was alleged that Mr. Lauzon, a paramedic, sexually assaulted a patient while transporting her to the hospital.
			R. v. West Parry Sound Health Centre 2012 ONCJ 361	A health centre was charged with offences related to workplace safety. The Emergency medical services manager of the health centre climbed a ladder on the outside of the ambulance base and fell, sustaining injuries. The health centre was charged with failing to ensure that a portable ladder was placed on a firm footing as required by Regulation 851 and with failing to provide information, instruction, and supervision to the manager on the proper use of a ladder.
			Pak v. Toronto (City) 2011 HRT0 2281	The paramedic applicants allege that they have been subjected to discrimination and reprisal in their employment, in particular in relation to their employer's uniform policies and their efforts to seek uniform accommodation. This matter concerned whether the two applicants' cases should be heard together.
(sub) – negligence or negligent	42	3	Lambton (County) [2012] O.L.R.D. No. 112 & [2012] O.L.R.D. No. 2434	This case concerned Mr. Ataellahi's allegations directed towards his union. Specifically, he alleged that his union did not represent him with respect to a grievance, that his union mishandled an appeal he filed in regards to a union decision to not proceed with his grievance, and that the union generally fails to adhere to its constitution and represent its members. All of these issues stemmed from Mr. Ataellahi's refusal to receive a flu shot or take anti-viral medications and his employer's assertion that Mr. Ataellahi could not drive an ambulance as a result of his refusals. The employer was applying the Ministry of Health and Long-Term Care's policy that provides that during an outbreak of a communicable disease, such as influenza, no unvaccinated paramedic is allowed to respond to a request for an ambulance. One of the referred to cases dealt with a motion by the union to summarily dismiss Mr. Ataellahi's claims while the other is the disposition of the matter in its entirety.

			Chaszewski Estate v. 528089 Ontario Inc. (c.o.b. Whitby Ambulance Service) 2012 ONCA 97	Appeal by the plaintiffs from a summary dismissal of their action against 2 paramedics for negligence.
(sub) – incompetence or incompetent	2	0		



SECTION IV

Regulation of a New Health Profession under the
Regulated Health Professions Act (RHPA), 1991:

Literature Review – Part I

Literature Review Part I

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A Rapid Literature Review on Patient Safety and Non-Physician EMS Providers

PLANNING UNIT PRODUCT # 274

**Prepared by the Planning Unit
Planning, Research and Analysis Branch
Health System Strategy & Policy Division
Ministry of Health and Long-Term Care
November 2012**

Please note that this Rapid Literature Review is a summary of information from other sources, not a representation of the policy position or goals of the Ministry of Health and Long-Term Care. If material in the review is to be referenced, please cite the original, primary source, rather than the review itself.

OBJECTIVES

The requestor's stated objectives were to examine evidence related to patient safety and paramedics and emergency medical attendants.

SEARCH METHODS FOR IDENTIFICATION OF STUDIES

Individual peer-reviewed articles and review articles were identified through the Ontario Ministry of Health and Long-Term Care's computerized library database, PubMed, and Google Scholar. Grey literature was identified through Google and relevant government websites. The search was limited to English sources and therefore may not capture the full extent of initiatives in non-English speaking countries.

The Medical Subject Heading (MeSH) terms "Emergency Medical Services", "Emergency Medical Technicians", "Patient Safety", "Risk", "Safety Management", "Safety", "Harm Reduction", "Medical Errors", and "Ambulances", were used in combination with the following keywords to identify relevant articles and documents for this review: "Patient Safety Issues", "Risk Of Harm", "Adverse Events", "Complaints", "EMS", "Pre-hospital Emergency Care", and "Emergency Care Transitions".

A total of 25 references were identified and cited in this review: five review articles, 18 original research papers from peer-reviewed journals, and two documents from the grey literature. Table 1 in the Appendix consists of a summary table with details for each of the sources cited in the review. In total, the searching for relevant material and the writing of this review took approximately 11 days to complete by one person.

SUMMARY OF MAIN FINDINGS

- The research literature on patient safety in the context of emergency medical services (EMS) is limited.
- Several authors have noted that, by its nature, the pre-hospital setting presents many challenges to providing safe, high-quality medical care in emergency situations.
 - EMS providers work in environments that are physically and emotionally challenging (e.g., in unfamiliar locations under time pressure)
 - The EMS environment differs fundamentally from the environment of the emergency department or intensive care unit (where many EMS patients would otherwise receive care)
- Several risks to patient safety in the pre-hospital setting associated with paramedics are identified in this review; these have been broadly classified into risks associated with high-level contextual factors (e.g., scope of practice, training), and risks associated with point of care service delivery (e.g., medical errors, ambulance collisions).

Risks Associated with Contextual Factors Related to Providing EMS Care

- **Expanding Scope of Practice and Training:** According to the authors of a qualitative study, EMS scope of practice has expanded in recent years, and EMS providers may be expected to provide care for which they have not been trained adequately.

- **Skill Retention:** Evidence suggests that EMS providers may not have sufficient opportunities for practicing their skills and developing the expertise required for safe practice.
- **Fatigue:** The nature of EMS shift work may make it difficult for EMS workers to obtain sufficient quantity and quality of sleep. A recent study reported associations between sleep quality, fatigue, and self-reported safety outcomes among EMS workers.
- **Safety culture:** Safety culture refers to the shared perceptions or attitudes of a work group toward safety. According to a recent study, individual EMS worker perceptions of workplace safety culture are associated with safety-compromising behaviours.

Risks Associated with Point of Care Service Delivery

- **Issues with Clinical Judgment and Decision Making:** A number of studies have identified poor clinical decision making or difficulties associated with the complex process of making decisions at the point of care as key issues in pre-hospital patient safety.
- **Complexity of Care in the Pre-Hospital Setting:**
 - Medical care in a moving ambulance can be difficult, error prone, and may be poorly executed (e.g., patients may be dropped or fall from a stretcher causing injury); this can result in poor patient outcomes. Commonly identified errors in EMS care include failure to secure a patient's airway and mistakes in administration of medication.
 - One study found that roughly half of EMS providers reported committing an error during the previous year.
 - Deviation from protocols: There are reports on deviations from protocol care which commonly result in misdiagnoses, failure to initiate treatment, failure to reassess, and failure to alter treatment.
 - Medication errors: In a 2011 study, Canadian experts in EMS patient safety rated medication adverse events as the second most important patient safety issue in the pre-hospital setting; several studies presented findings related to EMS medication errors.
- **Ambulance Collisions:** Vehicle collisions were identified as an important patient safety issue in Canada.

DESCRIPTION OF THE FINDINGS

1. Definitions

Patient safety: The World Health Organization (WHO) defines patient safety as the "reduction of risk of unnecessary harm associated with healthcare to an acceptable minimum" (Bigham et al. 2009 as cited in Bigham et al. 2011).

Emergency Medical Service (EMS) providers: EMS providers in Canada are educated through a one to two year diploma program and can upgrade to advanced, critical care, or air medical transport certification through further study and on-the-job training. Paramedic education is accredited by the Canadian Medical Association (Bigham et al. 2009). In this literature review, the

* The term "acceptable minimum" refers to the collective notions given current knowledge, the resources available, and the context in which care was delivered weighed against the risk of non treatment or other treatment (Bigham et al. 2009 as cited in Bigham et al. 2011).

terms “EMS providers,” “EMS personnel,” “EMS staff,” and “paramedics” have been used interchangeably and are considered to be non-physician care providers in the pre-hospital setting.

2. Limitations of the Literature

The research literature on the safety of patients treated by EMS providers is limited (Bigham et al. 2012; Bigham et al. 2009). Although the last decade has seen a considerable amount of work directed at the investigation of patient harm events (Price et al. 2012), little of it has focused on pre-hospital care (Bigham et al. 2012; Price et al. 2012). As a result, there is little quantitative information available regarding the specific risks to patient safety in the pre-hospital setting (Gallagher & Kupas, 2012; Price et al. 2012). As such, this literature review presents qualitative data on the risks to patient safety associated with care provided by EMS providers.

3. Overview of the Identified Literature

It is widely noted that providing treatment in the EMS setting poses challenges that are unique in healthcare (Brice et al. 2012; Bigham et al. 2012; Bigham et al. 2011; Price et al. 2012). According to one set of authors, “EMS providers work in perhaps the least ideal physical and emotional environment, creating a milieu ripe for patient harm” (Bigham et al. 2012). Challenges to the provision of safe, high-quality medical care in emergency situations include:

- EMS providers work in environments that are physically and emotionally challenging; providers often work in unfamiliar locations under time pressure; this may lead to crisis situations that are hectic, rushed, and stressful (Bigham et al. 2012).
- Paramedics attend medical and traumatic emergencies across the full spectrum of age, socioeconomic status and geography, and are expected to perform functions including scene management, patient assessment, treatment, and transport across that spectrum (Price et al. 2012).

According to some Canadian experts, EMS providers may be required to provide ongoing care for which they were not trained. Overcrowding in emergency departments can lead to long delays in discharging patients to emergency department staff. In the interim, EMS providers are required to provide complex care for unstable patients in a challenging environment despite never having received training for this type of care (Atack & Maher, 2010).

- The authors of the study further note that the EMS environment differs fundamentally from the environments of the emergency department or intensive care unit (where these patients would otherwise receive care); in those settings, other clinicians supervise practice, assist, and make recommendations and where quality assurance is an ongoing process because staff work in teams.

Staff stress (LeBlanc et al. 2005 as cited in Brice et al. 2012), fatigue, lack of experience (Atack & Maher, 2010), uncertainty in decision making, and the uncontrolled environment (Price et al. 2012) have all been identified as potential contributors to patient harm events in the pre-hospital setting; more research is required on the impact of each factor and how the factors combine to affect patient safety (Price et al. 2012).

Given this background, several risks to patient safety that are associated with paramedics are identified in this review; these factors have been broadly classified into risks associated with high-

level contextual factors (e.g., scope of practice, training), and risks associated with incidents that occur at the point of care (e.g., medical errors).

4. Risks Associated with Contextual Factors Related to Providing EMS Care

This review identified five factors related to the EMS providers' work conditions that have the potential to impact patients' safety; each is described below.

4.1. Expanding Scope of Practice

EMS practice has changed considerably in recent years. In a qualitative study, some Canadian experts on EMS patient safety noted that the role of EMS providers is not clear and that there is tension between the traditional stabilize-and-transport role and the increasingly complex treatment role that has come about through "scope creep." According to some of the experts included in the study, as skills, medications, and technology have been added to professional practice, training has not kept pace, (Atack & Maher, 2010). This may lead providers to make clinical decisions that could harm patients during pre-hospital care (Bigham et al. 2012).

4.2. Training

The literature further suggests that paramedics may lack proper training or experience to provide specialized care that children require (Al-Anazi, 2012; Lu et al. 2012). One UK survey found that paramedics and most emergency medical technicians had received limited pediatric training. For example, 54% of clinical directors of 16 NHS ambulance services indicated that there was a high likelihood that the first individual to respond to an emergency involving a child could be someone with no current qualification specific to paediatrics (Houston & Pearson, 2010).

Several jurisdictions have responded to the challenge of safety issues associated with paramedics' training by developing programs that aim to give paramedics enhanced capabilities. Findings regarding the effectiveness of these programs, however, have been mixed. Examples include:

- One systematic review found that there was no benefit to providing advanced life support training[†] for ambulance personnel (Jayaraman & Sethi, 2010).
- According to a recent review (Bigham et al. 2012), the only randomized controlled trial examining threats to patient safety in the EMS environment found no significant differences in the safety of clinical decisions made by extended-scope paramedics[‡] who had received additional training in the assessment and treatment of low-acuity conditions compared to the standard UK EMS care (Mason et al. 2008).
- In the US, critical care paramedics (CCPs), who have enhanced clinical capabilities in airway and cardiovascular management, are thought by some to have the potential to help reduce mortality rates in the pre-hospital environment. A 2011 UK report evaluating CCPs, however, suggested that evidence was inconclusive as to whether doctors were able to save more lives or achieve better clinical outcomes than CCPs in pre-hospital care (The National Institute for Health Research Confederation, 2011).

[†] Advanced life support (ALS)-trained ambulance crews receive extra training (e.g., endotracheal intubation, the administration of intravenous fluids, and the use of selected drugs) (Jayaraman & Sethi, 2010).

[‡] The role of extended-role paramedic practitioners in the UK was developed in order to manage minor acute illness and injury among older people in the home when appropriate, avoiding unnecessary transfer to the emergency department (Mason et al. 2008).

4.3. Skill Retention

In a qualitative study, Canadian experts with knowledge and expertise regarding policy, practice, and research in EMS patient safety[§] commented that EMS providers are often trained and certified based on a one-time evaluation; and then sent out to practice unsupervised – they noted that subsequent opportunities for practicing their skills may not be sufficient to develop the expertise required for safe practice (Atack & Maher, 2010). For instance:

- One study of paramedic students found that intubation^{**} success rates increased with greater clinical experience, but the authors noted that many training programs may not provide enough intubation training experiences to achieve high success rates (Warner et al. 2010).

4.4. Fatigue

The WHO identified fatigue as a leading factor in medical error and injury in health care (WHO, 2009 as cited in Patterson et al. 2012). It has been noted that the nature of EMS shift work includes overnight duty, rotating schedules, early awakening, and interrupted nocturnal sleep, which can disrupt circadian rhythms and result in a situation where the individual is out of phase with the environment, and suffer from a decrease in the quantity and quality of sleep. As a result of these issues, it has been suggested that EMS providers suffer from poor sleep quality, often feel fatigued while at work (Brice & Patterson, 2012) and report feeling stress and burnout (Knox et al. 2006; Patterson et al. 2005 as cited in Patterson et al. 2010a). For instance, in two American studies, 44.5% (Patterson et al. 2010b) and 55.0% (Patterson et al. 2012) of EMS workers reported that they suffered from severe fatigue while at work; EMS workers also commonly reported poor sleep quality (Patterson et al. 2010b). EMS providers may work around-the-clock and work for 12- or 24-hour shifts, with limited opportunities for meals or rest which can lead to fatigue (Brice et al. 2012).

A recent study of EMS workers in the US reported associations between sleep quality, fatigue, and self-reported safety outcomes (Patterson et al. 2012). The study found that, compared to non-fatigued respondents, EMS providers who reported being fatigued were:

- More than twice as likely to report one or more medical errors or adverse events in the previous three months;
- Almost twice as likely to report having been injured in the previous three months;
- Over 3.5 times as likely to report that their safety or the safety of their patients was compromised in the prior three months.

4.5. Safety Culture

Safety culture refers to the shared perceptions or attitudes of a work group toward safety (Zohar, 1980 as cited in Weaver et al. 2012). A recent study found that individual EMS workers' perceptions of workplace safety culture were associated with patient safety outcomes; EMS

[§] Purposive sampling was used in this study to identify informants with knowledge and expertise regarding policy, practice, and research who could speak to the issue of patient safety; the committee consisted of representatives from the Canadian Patient Safety Institute, Emergency Medical Services Chiefs of Canada, and the Calgary, Alberta, EMS Foundation (Atack & Maher, 2010).

^{**} Intubation refers to a procedure that inserts a tube into the patient's airway to protect the airway from collapsing (The Free Dictionary, 2012); a Canadian study found that 62% of experts in the field of EMS patient safety identified intubation as an important patient safety issue[†] (Bigham et al. 2011).

workers who reported lower perceptions of the safety climate of their workplace^{††} also reported safety-compromising behaviour^{††} (Weaver et al. 2012). A 2010 study found that safety culture scores varied across EMS agencies (Patterson et al. 2010a).

The authors of one article suggested that safety topics that may currently require a cultural shift include vehicle use (e.g., lights and siren use), personnel management (e.g., driver training), and behavioural response (e.g., speed at the cost of safety) (Brice et al., 2012).

5. Risks Associated with Point of Care Service Delivery

This review identified three factors that may impact patient safety at the point of care; each is described below.

5.1. Issues with Clinical Judgment and Decision Making

EMS providers are required to make critical medical decisions with incomplete information and under time pressure (Lu et al. 2012). A number of studies have identified poor clinical decision making or difficulties associated with the complex process of making decisions at the point of care as key issues in pre-hospital patient safety (Price et al. 2012; Bigham et al. 2011; Atack & Maher, 2010). A 2012 study found that regular exposure to unremarkable or low severity cases (e.g., abdominal pain) may desensitize paramedics to severe conditions that present with similar symptoms (e.g., mistaking a heart attack for abdominal pain) (Price et al. 2012). Studies have linked clinical judgment to expanding the scope of practice, training (Bigham et al. 2012), and fatigue (Atack & Maher, 2010; Patterson et al. 2010b) (these factors were described in Section 4).

5.2. Complexity of Providing Care in the Pre-Hospital Setting

It has been suggested that care in the pre-hospital setting is potentially error prone (Lu et al. 2012), and that communication failure between EMS providers and patients in the pre-hospital setting can increase the risk of medical errors (Price et al. 2012). Findings regarding problems in the care delivered by EMS workers identified in the literature are as follow:

- According to a 2012 article, several investigators have found that the quality of cardiopulmonary resuscitation (CPR) provided during transport or simulated transport was poor (Brice et al., 2012).
- Results of a retrospective review of claims against EMS agencies in the US revealed that patient handling was one of the most common adverse events and accounted for 36% of claims (e.g., instances in which patient fell or was dropped by EMS provider) (Wang et al., 2008).
- A recent article (Lu et al. 2012) noted that in one study, roughly half of EMS providers reported committing an error during the last year. The authors noted that given that approximately 16 million medical transports occur in the US annually, the actual number of pre-hospital errors is likely substantial.

^{††} EMS workers safety culture was measured by the Safety Attitudes Questionnaire (SAQ) which is a survey instrument measuring six dimensions of workplace safety culture (Safety Climate, Teamwork Climate, Perceptions of Management, Job Satisfaction, Working Conditions, and Stress Recognition) (Patterson et al. 2010a).

^{††} Both EMS workplace safety culture and safety-compromising behaviours were self-reported by EMS providers and were measured at the same time (Patterson et al. 2010a).

5.2.1. Deviation from Protocols

Standard treatment protocols for certain pre-hospital complaints are designed to achieve consistent, high-quality, error-resistant care for a given complaint. In spite of this, there are reports on deviations from protocol care which commonly result in misdiagnoses, failure to initiate treatment, failure to reassess, and failure to alter treatment (Rittenberger et al. 2005). Evidence suggests that pre-hospital patients may not always receive the care recommended by protocols and that awareness of guidelines among EMS providers may be low; for example:

- A US study reported that, in the care of patients with chest pain, deviations from protocol by EMS providers occur frequently and that, as a result, the documented care of pre-hospital patients with chest pain is variable. For example despite the proven effect of aspirin in reducing mortality in patients with heart attack that is reflected in the standard medical treatment protocols, just over half of the patients in the study received aspirin prior to arrival at the hospital (Rittenberger et al. 2005).
- One US study found that awareness among EMS providers in two states regarding the use of pediatric defibrillation^{§§} guidelines was low (less than 30%) following the release of an advisory statement, but that awareness of the recommendations significantly increased (to 60% or over) following the incorporation of the recommendations into the CPR guidelines (Haskell et al. 2008).

5.2.2. Medication Errors

In a 2011 study, Canadian experts in EMS patient safety rated medication adverse events as the second most important patient safety issue in the pre-hospital setting,^{***} with 69% of participants rating its importance highly^{†††} (Bigham et al. 2011). Several studies presented findings related to medication error; findings included:

- In a qualitative study, some Canadian experts in EMS patient safety noted that giving medications is a relatively small part of the EMS process; but that medication errors are seriously underreported (Atack & Maher, 2010).
- Other studies have found that medication errors are common in the pre-hospital setting (Hoyle et al. 2012). For example:
 - One study found that the error frequency with the dosing of one of the emergency medications, epinephrine, was 56% among EMS providers (Kaji et al. 2006 as cited in Hoyle et al. 2012).
 - A recent study reported that pre-hospital medication events contributed to 5% of safety events in the state of Pennsylvania (Gallagher & Kupas, 2012).
 - A study conducted in eight Michigan EMS agencies revealed that medications delivered in the pre-hospital care of children by paramedics were frequently administered outside of the proper dose range (Hoyle et al. 2012).^{†††}

^{§§} Defibrillation is a process in which an electronic device gives an electric shock to the heart. This helps re-establish normal contraction rhythms (American Heart Association, 2012).

^{***} The most prominent patient safety issue was clinical judgment and decision making, rated as highly important by 95% of attendees (Bigham et al. 2011).

^{†††} 69% of respondents assigned intubation a score of four or five on a five-point scale of importance (Bigham et al. 2011).

^{†††} Children may be particularly vulnerable to medication errors because drug dosages are calculated according to body weight; however paramedics' often have limited experience treating children, which can contribute to errors (Hoyle et al. 2012).

5.3. Ambulance Collisions

Vehicle collisions were identified by Canadian experts in EMS patient safety as an important^{§§§} patient safety issue in pre-hospital care (Bigham et al. 2011; Attack & Maher, 2010). A growing body of research demonstrates that ambulance crashes are common (Brice et al., 2012; Brice and Patterson, 2012):

- Results of a US study showed that emergency vehicle collisions accounted for 37% of claims against EMS agencies (Wang et al., 2008).
- Another study found that from 2003 to 2010, driving issues or collisions contributed to 6% of safety events in the state of Pennsylvania (Gallagher & Kupas, 2012).

Some of the causes of collisions identified in the literature included: inexperienced drivers; effects of shift work and stress in EMS providers; lack of driver safety training (Wang et al. 2008; Kahn et al. 2001; Saunders & Heye, 1994, as cited in Bigham et al. 2011); substance abuse; fatigue (Brice et al. 2012); and the culture of speed in EMS (Attack & Maher, 2010).

^{§§§} 61% of respondents assigned intubation a score of four or five on a five-point scale of importance (Bigham et al. 2011).

APPENDIX

Table 1 – Description of the content in the articles being summarized¹³

No.	Description	Reference
Review Articles		
1.	<p>Aim: To survey the literature on Pediatric Emergency Medical Services (PEMS) with an aim to focus its drawbacks and emphasize the means of improvement. Materials and Methods: Published articles selected for inclusion were based on the significance and understanding of literature search on different aspects of PEMS. To meet this criterion, PubMed, PubMed Central, Science Direct, Uptodate, Med Line, comprehensive databases, Cochrane library and the Internet (Google, Yahoo) were thoroughly searched. Results: PEMS provide out-of-hospital medical care and/or transport the patients to definitive care. The task force represents specialties of ambulance transport, first aid, emergency medical care, life saving, trauma, emergency medicine, water rescue, and extrication. Preliminary care is undertaken to save the patients from different medical exigencies. The techniques and procedures of basic and advanced life-support are employed. A large number of weaknesses are recorded in PEMS system, such as ambulance transport irregularities, deficit equipment, lack of expertise, and ignorance of the pre-hospital care providers. These are discussed with special reference to a few examples of medical exigencies. Conclusions: The appointments in PEMS should be regularized with specific qualifications, experience, and expertise in different areas. Responsibility of PEMS should not be left to pre-hospital care providers, who are non clinicians and lack proper education and training. Pediatricians should be adequately trained to play an active role in PEMS. Meetings should be convened to discuss the lapses and means of improvement. Networks of co-operation between pre-hospital providers and experts in the emergency department should be established.</p>	Al-Anazi, A. (2012). Pediatric emergency medical services and their drawbacks. <i>Journal of Emergencies, Trauma and Shock</i> , 5 (3), 220-7.

¹³ Please note the studies, programs, and findings presented in this table may originate from jurisdictions with health systems that are significantly different from Ontario's. If there is intent to draw heavily from one or more sources presented in this table, we recommend that you contact the lead author of this review for assistance with evaluating the local applicability.

No.	Description	Reference
2.	<p>Background. Preventable harm from medical care has been extensively documented in the inpatient setting. Emergency medical services (EMS) providers care for patients in dynamic and challenging environments; pre-hospital emergency care is a field that represents an area of high risk for errors and harm, but has received relatively little attention in the patient safety literature.</p> <p>Objective. To identify the threats to patient safety unique to the EMS environment and interventions that mitigate those threats, The authors completed a systematic review of the literature. Methods. The authors searched MEDLINE, EMBASE, and the Cumulative Index to Nursing and Allied Health Literature (CINAHL) for combinations of key EMS and patient safety terms composed by a pan-Canadian expert panel using a year limit of 1999 to 2011. The authors excluded commentaries, opinions, letters, abstracts, and non-english publications. Two investigators performed an independent hierarchical screening of titles, abstracts, and full-text articles blinded to source. The authors used the kappa statistic to examine interrater agreement. Any differences were resolved by consensus. Results. The authors retrieved 5,959 titles, and 88 publications met the inclusion criteria and were categorized into seven themes: adverse events and medication errors (22 articles), clinical judgment (13), communication (6), ground vehicle safety (9), aircraft safety (6), interfacility transport (16), and intubation (16). Two articles were randomized controlled trials; the remainder were systematic reviews, prospective observational studies, retrospective database/chart reviews, qualitative interviews, or surveys. The kappa statistics for titles, abstracts, and full-text articles were 0.65, 0.79, and 0.87, respectively, for the first search and 0.60, 0.74, and 0.85 for the second. Conclusions. The authors found a paucity of scientific literature exploring patient safety in EMS. Research is needed to improve our understanding of problem magnitude and threats to patient safety and to guide interventions.</p>	<p>Bigham, B.L., Buick, J.E., Brooks, S.C., Morrison, M., Shojania, K.G., & Morrison, L.J. (2012). Patient safety in emergency medical services: a systematic review of the literature. <i>Prehospital Emergency Care</i>, 16(1), 20-35.</p>
3.	<p>Introduction: Pre-hospital airway management is a controversial subject, but there is general agreement that a small number of seriously ill or injured patients require urgent emergency tracheal intubation (ETI) and ventilation. Many European emergency medical services (EMS) systems provide physicians to care for these patients while other systems rely on paramedics (or, rarely, nurses). The ETI success rate is an important measure of provider and EMS system success and a marker of patient safety.</p> <p>Methods: The authors conducted a systematic search of Medline and EMBASE to identify all of the published original English-language articles reporting pre-hospital ETI in adult patients. The authors selected all of the studies that reported ETI success rates and extracted information on the number of attempted and successful ETIs, type of provider, level of ETI training and the availability of drugs on scene. The authors calculated the overall success rate using meta-analysis and assessed the relationships between the ETI success rate and type of provider and between the ETI success rate and the types of drugs available on the scene. Results: From 1,070 studies initially retrieved, the authors identified 58 original studies meeting the selection criteria. Sixty-four per cent of the non-physician-manned services and 54% of the physician-manned services reported ETI success rates but the success rate reporting was incomplete in three studies from non-physician-manned services. Median success rate was 0.905 (0.491, 1.000). In a weighted linear regression analysis, physicians as providers were significantly associated with increased success rates, 0.092 ($P = 0.0345$). In the non-physician group, the use of drug-assisted intubation significantly increased the success rates. All physicians had access to traditional rapid sequence induction (RSI) and, comparing these to non-physicians using muscle paralytics or a traditional RSI, there still was a significant difference in success rate in favour of physicians, 0.991 and 0.955, respectively ($P = 0.047$).</p> <p>Conclusions: This comprehensive meta-analysis suggests that physicians have significantly fewer pre-hospital ETI failures overall than non-physicians. This finding, which remains true when the non-physicians administer muscle paralytics or RSI, raises significant patient safety issues. In the absence of pre-hospital physicians, conducting basic or advanced airway techniques other than ETI should be strongly considered.</p>	<p>Lossius, H.M., Røislien, J., & Lockett, D.J. (2012). Patient safety in pre-hospital emergency tracheal intubation: a comprehensive meta-analysis of the intubation success rates of EMS providers. <i>Critical Care</i>, 16(1).</p>

No.	Description	Reference
4.	<p>Emergency medical services (EMS) personnel care for patients in challenging and dynamic environments that may contribute to an increased risk for adverse events. However, little is known about the risks to patient safety in the EMS setting. To address this knowledge gap, the authors conducted a systematic review of the literature, including nonrandomized, noncontrolled studies, conducted qualitative interviews of key informants, and, with the assistance of a pan-Canadian advisory board, hosted a 1-day summit of 52 experts in the field of EMS patient safety. The intent of the summit was to review available research, discuss the issues affecting pre-hospital patient safety, and discuss interventions that might improve the safety of the EMS industry. The primary objective was to define the strategic goals for improving patient safety in EMS. Participants represented all geographic regions of Canada and included administrators, educators, physicians, researchers, and patient safety experts. Data were collected through electronic voting and qualitative analysis of the discussions. The most prominent patient safety issue discussed was clinical judgment and decision making, rated as highly important by 95% of attendees. There was a consensus that paramedics in Canada are providing increasingly complex and time-sensitive patient care; examples include new cardiopulmonary resuscitation (CPR) process measures for cardiac arrest, early stroke identification and transport bypass protocols, and therapeutic interventions in trauma. The informants stated that training may be inadequate to ensure that paramedics are competent in performing complex protocols and making clinical decisions regarding diagnosis and treatment, and this may contribute to patient safety issues. The group reached consensus on nine recommendations to increase awareness, reduce adverse events, and suggest research and educational directions in EMS patient safety: increasing awareness of patient safety principles, improving adverse event reporting through creating nonpunitive reporting systems, supporting paramedic clinical decision making through improved research and education, policy changes, using flexible algorithms, adopting patient safety strategies from other disciplines, increasing funding for research in patient safety, salary support for paramedic researchers, and access to graduate training in pre-hospital research.</p>	<p>Bigham, B.L., Bull, E., Morrison, M., Burgess, R., Maher, J., Brooks, S.C., & Morrison, L.J. (2011). Patient safety in emergency medical services: executive summary and recommendations from the Niagara Summit. <i>Canadian Journal of Emergency Medicine</i>, 13(1), 13–18.</p>

No.	Description	Reference
5.	<p>Background: There is an increasing global burden of injury especially in low- and middle-income countries (LMICs). To address this, models of trauma care initially developed in high income countries are being adopted in LMIC settings. In particular, ambulance crews with advanced life support (ALS) training are being promoted in LMICs as a strategy for improving outcomes for victims of trauma. However, there is controversy as to the effectiveness of this health service intervention and the evidence has yet to be rigorously appraised. Objectives: To quantify the impact of ALS-trained ambulance crews versus crews without ALS training on reducing mortality and morbidity in trauma patients. Search methods: Searches were not restricted by date, language or publication status. The authors searched the Cochrane Injuries Group Specialised Register, CENTRAL (<i>The Cochrane Library</i> 2009, Issue 3), MEDLINE (Ovid SP), EMBASE (Ovid SP), CINAHL (EBSCO) and PubMed in all years up to July 2009. The authors also searched the reference lists of relevant studies and reviews in order to identify unpublished material. Selection criteria: Randomised controlled trials, quasi-randomised controlled trials and non-randomised studies, including before-and-after studies and interrupted time series studies, comparing the impact of ALS-trained ambulance crews versus crews without ALS training on the reduction of mortality and morbidity in trauma patients. Data collection and analysis: One review author applied eligibility criteria to trial reports for inclusion and extracted data. Main results: The authors found one controlled before-and-after trial, one uncontrolled before-and-after study, and one randomised controlled trial that met the inclusion criteria. None demonstrated evidence to support ALS training for pre-hospital personnel. In the uncontrolled before- and- after study, 'a priori' sub-group analysis showed an increase in mortality among patients who had a Glasgow Coma Scale score of less than nine and received care from ALS trained ambulance crews. Additionally, when the pre-hospital trauma score was taken into account in logistic regression analysis, mortality in the patients receiving care from ALS trained crews increased significantly. Authors' conclusions: At this time, the evidence indicates that there is no benefit of advanced life support training for ambulance crews.</p>	<p>Jayaraman, S. & Sethi, D. (2009). Advanced trauma life support training for ambulance crews. <i>The Cochrane database of systematic reviews</i>, 20 (1).</p>
Articles in Peer-Reviewed Journals		
6.	<p>The pre-hospital setting is an unpredictable and often hazardous environment for providers and patients. Recent research shows that emergency medical services (EMS) personnel often work multiple jobs, are physically unfit or unhealthy, suffer from poor sleep quality, and often feel fatigued while at work. These factors increase the risks of negative safety outcomes for the EMS provider, such as musculoskeletal injury or exposure to blood-borne pathogens. Several known threats to patient safety include medication errors, missed intubations, inadequate chest compression fraction, and drops from a stretcher. The authors note that understanding is limited regarding threats to provider and patient safety, the magnitude of these problems, the cause, and what interventions are effective in reducing risk. A growing body of research demonstrates that ambulance crashes are common and deadly events that may be preventable. The ambulance is ergonomically disadvantageous for safe care delivery. Crashworthiness testing of ambulances may provide additional information about external design and internal configuration that can be applied to save the lives of providers and patients. The nature of pre-hospital care requires that medical decisions be made quickly and often with limited information from the patient or bystanders. This lack of sufficient information may lead to a medication error or an adverse event.</p>	<p>Brice, J.H. & Patterson, P.D. (2012) Special Section: Safety in EMS. <i>Prehospital Emergency Care</i>, 16(1), 1.</p>

No.	Description	Reference
7.	<p>The out-of-hospital setting is unique to health care and presents many challenges to providing safe, high-quality medical care in emergency situations. The challenges of the pre-hospital environment require thoughtful design of systems and processes of care. The unique challenges of ambulance safety may be met by analyzing systems and incorporating process improvements. The purposes of this paper are to 1) outline the nature of this problem, 2) introduce a framework for this discussion, 3) provide expert opinion from a two-day ambulance safety conference, and 4) propose a plan of action to address the safety issues identified in the literature and expert opinion at the conference. Utilizing the Haddon Matrix as a framework, the authors present the safety issues and proposed solutions for factors contributing to an injury event in the emergency medical services (EMS) transport environment: host, agent, physical environment, and social environment. <i>Host</i> refers to the person or persons at risk, in this case, the EMS personnel or the patient. Conceptualizing the EMS professional as the host in Haddon's injury matrix allows us to examine many facets of injury that occur in and around an ambulance during the care and transport of a patient. Host factors that may play an important role in ambulance safety include fitness, sleepiness, education, knowledge, skills, and capability. The <i>agent of injury</i> refers to the energy exerted during the course of an injury, and may be modified to include unrestrained equipment that contributes to the injury. In the context of safety in a moving vehicle, the ambulance itself is the most obvious equipment to be considered. The equipment within an ambulance is also important in the discussion of safety in the moving ambulance, particularly if it is not carefully secured. The <i>physical environment</i> refers to the characteristics of the setting in which the injury takes place, such as the roadway or the physical design of the ambulance. The physical environment within the patient compartment of an ambulance can compromise a provider's ability to safely deliver care. Several investigators have found that the quality of cardiopulmonary resuscitation (CPR) provided during transport or simulated transport was poor. Finally, the <i>social environment</i> refers to the social, legal, and cultural norms and practices in the society, such as peer pressure and a culture that discourages the use of safety equipment. Quality patient care can be provided in a safe and timely manner. Current safety topics that may require a cultural shift can be broken into three broad areas: vehicle use, personnel management, and behavioral response. Vehicle use incorporates ambulance response times, lights and siren use, and call prioritization. Personnel management includes seat-belt usage and driver training. Behavioral response includes the notion of speed at all costs, personal accountability, error recognition, and self-reporting.</p>	<p>Brice, J.H., Studnek, J.R., Bigham, B.L., Martin-Gill, C., Custalow, C.B., Hawkins, E., & Morrison, L.J. (2012). EMS provider and patient safety during response and transport: proceedings of an ambulance safety conference. <i>Prehospital Emergency Care</i>, 16(1), 3-19.</p>

No.	Description	Reference
8.	<p>Background: Patient and provider safety is paramount in all aspects of emergency medical services (EMS) systems. The leaders, administrators, and policymakers of these systems must have an understanding of situations that present potential for harm to patients or providers. Objective: This study analyzed reports to a statewide EMS safety event reporting system with the purpose of categorizing the types of incidents reported and identifying opportunities to prevent future safety events. Methods: This statewide EMS safety incident reporting system is a Web-based system to which any individual can anonymously report any event or situation perceived to impact safety. The authors reviewed all reports between the system's inception in 2003 through August 2010. A stipulation of the system is that any entry containing information that identifies an EMS provider, agency, or patient will be deleted and thus not included in the analysis. Each event report included the description of the event, the relationship of the reporter, and the year in which the event occurred. Each entry was placed into a category that best represents the situation described. Results: A total of 415 reports were received during the study period, and 186 reports were excluded—163 (39%) excluded by the state because of identifiable information and 23 (6%) excluded by the authors because of nonsensical description. Within the remaining 229 reports, there were 237 distinct safety events. These events were classified as actions/behavior (32% [e.g., training/clinical judgment, 23%]), vehicle/transportation (16% [e.g., driving issue or collision, 6%]), staffing or ambulance availability (13%), communications (8%), medical equipment (9%), multiple patients/agencies/units and level-of-care issues (7%), medical procedure (6%), medication (5%), accident scene management/scene safety (3%), and protocol issues (1%). EMS providers directly involved in the event represented the largest reporting group (33%). The authors also provide examples of statewide system and policy changes that were made in direct response to these reports. Conclusion: This EMS safety incident reporting system identified situations that occurred in many categories of EMS care. These potential dangers represent opportunity to assess, and ultimately change, policy and procedures to reduce potential safety events and medical errors and improve overall safety. A substantial number of cases were excluded to maintain the promise of anonymity within the system. Limitations: The data set used in the study is limited by the willingness of the reporters to submit the events that they witness and all reports are treated as factual and do not correct for misunderstandings, varying points of view, or fraudulent reports.</p>	<p>Gallagher, J.M. & Kupas, D.F. (2012). Experience with an anonymous web-based state EMS safety incident reporting system. <i>Prehospital Emergency Care</i>, 16(1), 36-42.</p>

No.	Description	Reference
9.	<p>Background: Medication dosing errors occur in up to 17.8% of hospitalized children. There are limited data to describe pediatric medication errors by emergency medical services (EMS) paramedics. It has been shown that paramedics have infrequent encounters with pediatric patients. Objective: To characterize medication dosing errors in children treated by EMS. Methods: The authors studied patients aged ≤ 11 years who were treated by paramedics from eight Michigan EMS agencies from January 2004 through March 2006. They defined a medication dosing error as $\geq 20\%$ deviation from the weight-appropriate dose, as determined by the patient's reported weight in the pre-hospital medical record or by use of the Broselow-Luten tape (BLT). The authors studied errors in administering six EMS medications commonly given to children: albuterol, atropine, dextrose, diphenhydramine, epinephrine, and naloxone. Results: There were 5,547 children aged ≤ 11 years who were treated during the study period, of whom 230 (4.1%) received drugs and had a documented weight. These patients received a total of 360 medication administrations. Multiple drug administrations occurred in 73 cases. Medication dosing errors occurred in 125 of the 360 drug administrations (34.7%). Relative drug dosage errors were as follows: albuterol 23.3%, atropine 48.8%, diphenhydramine 53.8%, and epinephrine 60.9%. The mean error (\pm standard deviation) for intravenous/intraosseous 1:1000 epinephrine overdoses was $808\% \pm 428\%$. The mean error (\pm standard deviation) for intravenous/intraosseous 1:1000 epinephrine underdoses was $35.5\% \pm 27.4\%$. Conclusions: Medications delivered in the pre-hospital care of children were frequently administered outside of the proper dose range when compared with patient weights recorded in the pre-hospital medical record. EMS systems should develop strategies to reduce pediatric medication dosing errors.</p>	<p>Hoyle, J.D., Davis, A.T., Putman, K.K., Trytko, J.A., & Fales, W.D. (2012). Medication dosing errors in pediatric patients treated by emergency medical services. <i>Prehospital Emergency Care</i>, 16(1), 59-66.</p>
10.	<p>Out-of-hospital medical errors are likely common. There are important unanswered questions about the type, level of harm, and root cause of out-of-hospital errors. Safety experts and national guidelines recommend disclosing harmful medical errors to patients. Communicating with patients and families about errors respects their autonomy, supports informed decision making, may decrease malpractice costs, and can enhance patient safety. Yet existing disclosure guidelines may not account for the difficulty in discussing out-of-hospital errors with patients. Emergency medical services (EMS) providers operate in unpredictable environments that require rapid interventions for patients with whom they have only brief relationships. EMS providers also have limited access to patient medical data and risk management resources, which can make conducting disclosure conversations even more difficult. In addition, out-of-hospital errors may be discovered only after the transition of care to the inpatient setting, further complicating the question of who should disclose the error. EMS organizations should support the disclosure of out-of-hospital errors by fostering a nonpunitive culture of error reporting and disclosure, as well as developing guidelines for use by EMS systems.</p>	<p>Lu, D.W., Guenther, E., Wesley, A.K., & Gallagher, T.H. (2012). Disclosure of harmful medical errors in out-of-hospital Care. <i>Annals of Emergency Medicine</i>, Aug 7. [Epub ahead of print]</p>

No.	Description	Reference
11.	<p>Objective: To determine the association between poor sleep quality, fatigue, and self-reported safety outcomes among emergency medical services (EMS) workers. Methods: These authors used convenience sampling of EMS agencies and a cross-sectional survey design. They administered the 19-item Pittsburgh Sleep Quality Index (PSQI), 11-item Chalder Fatigue Questionnaire (CFQ), and 44-item EMS Safety Inventory (EMS-SI) to measure sleep quality, fatigue, and safety outcomes, respectively. The authors used a consensus process to develop the EMS-SI, which was designed to capture three composite measurements of EMS worker injury, medical errors and adverse events (AEs), and safety-compromising behaviors. They used hierarchical logistic regression to test the association between poor sleep quality, fatigue, and three composite measures of EMS worker safety outcomes. Results: The authors received 547 surveys from 30 EMS agencies (a 35.6% mean agency response rate). The mean PSQI score exceeded the benchmark for poor sleep (6.9, 95% confidence interval [CI] 6.6, 7.2). More than half of the respondents were classified as fatigued (55%, 95% CI 50.7, 59.3). Eighteen percent of the respondents reported an injury (17.8%, 95% CI 13.5, 22.1), 41% reported a medical error or AE (41.1%, 95% CI 36.8, 45.4), and 90% reported a safety-compromising behavior (89.6%, 95% CI 87, 92). After controlling for confounding, They identified 1.9 greater odds of injury (95% CI 1.1, 3.3), 2.2 greater odds of medical error or AE (95% CI 1.4, 3.3), and 3.6 greater odds of safety-compromising behavior (95% CI 1.5, 8.3) among fatigued respondents versus nonfatigued respondents. Conclusions: In this sample of EMS workers, poor sleep quality and fatigue are common. The authors provide preliminary evidence of an association between sleep quality, fatigue, and safety outcomes.</p>	<p>Patterson, P.D., Weaver, M.D., Frank, R.C., Warner, C.W., Martin-Gill, C., Guyette, F.X., et al. (2012). Association between poor sleep, fatigue, and safety outcomes in emergency medical services providers. <i>Prehospital Emergency Care</i>, 16(1), 86-97.</p>
12.	<p>Background: The last decade has seen a vast amount of work directed at the investigation of patient harm events. Unfortunately, little of it has pertained to pre-hospital care and as such, risk remains unquantified and poorly understood in this setting. The authors hypothesised that adverse patient events occurring during the pre-hospital phase may fall into discernible patterns, and that an understanding of these patterns would be valuable in the development of mitigation strategies. Methods: A survey tool was developed with reference to the human factors literature. Paramedics in a large Australian ambulance service were asked to recall an adverse event and to nominate factors that may have contributed to its occurrence. Responses were analysed using principal components analysis in order to identify contributory factors that could be statistically grouped together in meaningful patterns. Results: The survey yielded 370 responses. Eight key single contributors and 14 groups of contributory factors were identified. Of the groups, only two were strongly associated with serious patient outcomes, such as reported significant deterioration or death. Conclusions: The deteriorating patient was identified as the leading single contributor to pre-hospital adverse events, and two perfect storm patient harm scenarios were found to contribute materially to adverse outcomes. This approach to identifying both single factors contributing to an incident and factors which could be grouped together in a pattern, appears useful in delineating risk in the acute pre-hospital setting, and warrants further exploration in this and other areas of patient safety.</p>	<p>Price, R., Bendall, J.C., Patterson, J.A., & Middleton, P.M. (2012). What causes adverse events in prehospital care? A human-factors approach. <i>Emergency Medicine Journal</i>, Jul 16. [Epub ahead of print]</p>

No.	Description	Reference
13.	<p>Introduction. In 2005, the American Heart Association (AHA) released guidelines to improve survival rates from out-of-hospital cardiac arrest (OHCA). Objective. To determine if, and when, emergency medical services (EMS) agencies participating in the Resuscitation Outcomes Consortium (ROC) implemented these guidelines. Methods. The authors contacted 178 EMS agencies and completed structured telephone interviews with 176 agencies. The survey collected data on specific treatment protocols before and after implementation of the 2005 guidelines as well as the date of implementation crossover (the "crossover date"). The crossover date was then linked to a database describing the size, type, and structure of each agency. Descriptive statistics and regression were used to examine patterns in time to crossover. Results. The 2005 guidelines were implemented by 174 agencies (99%). The number of days from guideline release to implementation was as follows: mean 416 (standard deviation 172), median 415 (range 49–750). There was no difference in time to implementation in fire-based agencies (mean 432), nonfire municipal agencies (mean 365), and private agencies (mean 389, $p = 0.31$). Agencies not providing transport took longer to implement than agencies that transported patients (463 vs. 384 days, $p = 0.004$). Agencies providing only basic life support (BLS) care took longer to implement than agencies who provided advanced life support (ALS) care (mean 462 vs. 397 days, $p = 0.03$). Larger agencies (>10 vehicles) were able to implement the guidelines more quickly than smaller agencies (mean 386 vs. 442 days, $p = 0.03$). On average, it took 8.9 fewer days to implement the guidelines for every 50% increase in EMS-treated runs/year to which an agency responded. Conclusion. ROC EMS agencies required an average of 416 days to implement the 2005 AHA guidelines for OHCA. Small EMS agencies, BLS-only agencies, and nontransport agencies took longer than large agencies, agencies providing ALS care, and transport agencies, respectively, to implement the guidelines. Causes of delays to guideline implementation and effective methods for rapid EMS knowledge translation deserve investigation.</p>	<p>Bigham, B.L., Koprowicz, K., Aufderheide, T.P., Davis, D.P., Donn, S., Powell, J. et al. (2010). Delayed prehospital implementation of the 2005 American Heart Association guidelines for cardiopulmonary resuscitation and emergency cardiac care. <i>Prehospital Emergency Care</i>, 14(3), 355–60.</p>

No.	Description	Reference
14.	<p>Objectives: To date, most patient safety studies have been conducted in relation to the hospital rather than the pre-hospital setting and data regarding emergency medical services (EMS)-related errors are limited. To address this gap, a study was conducted to gain an in-depth understanding of the views of highly experienced EMS practitioners, educators, administrators, and physicians on major issues pertaining to EMS patient safety. The intent of the study was to identify key issues to give direction to the development of best practices in education, policy, and fieldwork. Methods: A qualitative study was conducted using processes described by Lincoln and Guba (1985) to enhance the quality and credibility of data and analysis. Purposive sampling was used to identify informants with knowledge and expertise regarding policy, practice, and research who could speak to the issue of patient safety. Sixteen participants, the majority of whom were Canadian (14) - the remaining were from the United States (1) and Europe (1)- participated in in-depth interviews. The average number of years of experience in EMS or health care was 27 years, and the range was from 20 to 32 years. Results: Informants were asked to identify key issues in patient safety from their perspectives. The overriding theme that emerged was that a broad view of factors influencing patient safety is required. While the perspectives of EMS personnel and physicians naturally differed, there was remarkable consistency in the issues they identified as major factors influencing patient safety. Two major themes were identified under the category of key issues: clinical decision making and EMS's focus and relationship with health care. An education gap has developed in EMS, and there is tension between the traditional stabilize-and-transport role and the increasingly complex role that has come about through "scope creep." If, as expected, EMS aligns increasingly with the health sector, then change is needed in the EMS educational structure and process to develop stronger clinical decision-making skills. Conclusion: The results of this study indicate that many individual organizations and health regions are addressing issues related to patient safety in EMS, and there are important lessons to be learned from these groups. The broader issues identified, however, are system-wide and best addressed through policy change from health regions and government.</p>	<p>Atack, L. & Maher, J. (2010). Emergency medical and health providers' perceptions of key issues in prehospital patient safety. <i>Prehospital Emergency Care</i>, 14(1), 95-102.</p>
15.	<p>Introduction: Workplace attitude, beliefs and culture may impact the safety of patient care. This study characterized perceptions of safety culture in a nationwide sample of Emergency Medical Services (EMS) agencies. Methods: The authors conducted a cross-sectional survey involving 61 Advanced Life Support EMS agencies in North America. They administered a modified version of the Safety Attitudes Questionnaire (SAQ), a survey instrument measuring dimensions of workplace safety culture (Safety Climate, Teamwork Climate, Perceptions of Management, Job Satisfaction, Working Conditions, and Stress Recognition). The authors included full-time and part-time paramedics and Emergency Medical Technicians. They determined the variation in safety culture scores across EMS agencies. Using Hierarchical Linear Models (HLM), the authors determined associations between safety culture scores and individual and EMS agency characteristics. Results: The authors received 1,715 completed surveys from 61 EMS agencies (mean agency response rate 47%; 95% CI 10%, 83%). There was wide variation in safety culture scores across EMS agencies [mean (min, max)]: Safety Climate 74.5 (Min 49.9, Max 89.7), Teamwork Climate 71.2 (Min 45.1, Max 90.1), Perceptions of Management 67.2 (Min 31.1, Max 92.2), Job Satisfaction 75.4 (Min 47.5, Max 93.8), Working Conditions 66.9 (Min 36.6, Max 91.4), Stress Recognition 55.1 (Min 31.3, Max 70.6). Air medical EMS agencies tended to score higher across all safety culture domains. Lower safety culture scores were associated with increased annual patient contacts. Safety climate domain scores were not associated with other individual or EMS agency characteristics. Conclusion: In this sample, workplace safety culture varies between EMS agencies.</p>	<p>Patterson, P.D., Huang, D.T., Fairbanks, R.J., Simeone, S., Weaver, M., & Wang, H.E. (2010a). Variation in emergency medical services workplace safety culture. <i>Prehospital Emergency Care</i>, 14(4), 448-460.</p>

No.	Description	Reference
16.	<p>Background: Fatigue is common among medical professionals and has been linked to poor performance and medical error.</p> <p>Objective: To characterize sleep quality and its association with severe fatigue in emergency medical services (EMS) providers.</p> <p>Methods: The authors studied a convenience sample of EMS providers who completed three surveys: the Pittsburgh Sleep Quality Index (PSQI), the Chalder Fatigue Questionnaire (CFQ), and a demographic survey. They used established measures to examine survey psychometrics and performed t-tests, analysis of variance (ANOVA), and chi-square tests to identify differences in PSQI and CFQ scores. Results: One hundred nineteen surveys were completed. The eight-hour shift was most commonly reported (35.4%). A majority of subjects were overweight (41.9%) or obese (42.7%), and 59.6% had been diagnosed with one or more health conditions (e.g., diabetes). Results from psychometric tests were positive. The mean (\pm standard deviation) PSQI score was $9.2 (\pm 3.7)$. A CFQ score ≥ 4, indicating severe mental and physical fatigue, was present in 44.5% of the subjects. The mean PSQI score was higher among those reporting severe fatigue (11.3 ± 3.2) than among those not reporting fatigue (7.5 ± 3.0, $p < 0.0001$). Conclusions: The results from this study suggest that the sleep quality and fatigue status of EMS workers are at unhealthy levels. The health and safety of the EMS worker and patient population should be considered in light of these results. Limitations: A large proportion of subjects (39.3%) in this study were between the ages of 40 and 49 years, which based on previous EMS workforce research, are representative of the older and slightly less prevalent EMS worker.</p>	<p>Patterson, P.D., Suffoletto, B.P., Kupas, D.F., Weaver, M.D., & Hostler, D. (2010b). Sleep quality and fatigue among prehospital providers. <i>Prehospital Emergency Care</i>, 14 (2), 187-93.</p>
17.	<p>Background: Emergency airway management is an important component of resuscitation of critically ill patients. Multiple studies demonstrate variable endotracheal intubation (ETI) success by pre-hospital providers. Data describing how many ETI training experiences are required to achieve high success rates are sparse. Objectives: To describe the relationship between the number of pre-hospital ETI experiences and the likelihood of success on subsequent ETI and to specifically look at uncomplicated first-pass ETI in a university-based training program with substantial resources. Methods: The authors conducted a secondary analysis of a prospectively collected cohort of paramedic student pre-hospital intubation attempts. Data collected on pre-hospital ETIs included indication, induction agents, number of direct laryngoscopy attempts, and advanced airway procedures performed. They used multivariable generalized estimating equations (GEE) analysis to determine the effect of cumulative ETI experience on first-pass and overall ETI success rates. Results: Over a period of three years, 56 paramedic students attempted 576 pre-hospital ETIs. The odds of overall ETI success were associated with cumulative ETI experience (odds ratio [OR] 1.097 per encounter, 95% confidence interval [CI] = 1.026- 1.173, $p = 0.006$). The odds of first-pass ETI success were associated with cumulative ETI experience (OR 1.061 per encounter, 95% CI = 1.014-1.109, $p = 0.009$). Conclusion: In a training program with substantial clinical opportunities and resources, increased ETI success rates were associated with increasing clinical exposure. However, first-pass placement of the ETT with a high success rate requires high numbers of ETI training experiences that may exceed the number available in many training programs.</p>	<p>Warner, K.J., Carlborn, D., Cooke, C.R., Bulger, E.M., Copass, M.K., & Sharar, S.R. (2010). Paramedic training for proficient prehospital endotracheal intubation. <i>Prehospital Emergency Care</i>, 14, 103-108.</p>

No.	Description	Reference
18.	<p>Background. Prior studies have highlighted wide variation in emergency medical services (EMS) workplace safety culture across agencies. Objective. To determine the association between EMS workplace safety culture scores and patient or provider safety outcomes. Methods. The authors administered a cross-sectional survey to EMS workers affiliated with a convenience sample of agencies. They recruited these agencies from a national EMS management organization. The authors used the EMS Safety Attitudes Questionnaire (EMS-SAQ) to measure workplace safety culture and the EMS Safety Inventory (EMS-SI), a tool developed to capture self-reported safety outcomes from EMS workers. The EMS-SAQ provides reliable and valid measures of six domains: safety climate, teamwork climate, perceptions of management, working conditions, stress recognition, and job satisfaction. A panel of medical directors, emergency medical technicians and paramedics, and occupational epidemiologists developed the EMS-SI to measure self-reported injury, medical errors and adverse events, and safety-compromising behaviors. The authors used hierarchical linear models to evaluate the association between EMS-SAQ scores and EMS-SI safety outcome measures. Results. Sixteen percent of all respondents reported experiencing an injury in the past three months, four of every 10 respondents reported an error or adverse event (AE), and 89% reported safety-compromising behaviors. Respondents reporting injury scored lower on five of the six domains of safety culture. Respondents reporting an error or AE scored lower for four of the six domains, while respondents reporting safety-compromising behavior had lower safety culture scores for five of the six domains. Conclusions. Individual EMS worker perceptions of workplace safety culture are associated with composite measures of patient and provider safety outcomes. This study is preliminary evidence of the association between safety culture and patient or provider safety outcomes. Limitations: Study findings may have limited generalizability to EMS workers from certain types of EMS delivery models (e.g., fire-based models). Part-time employees and volunteers are more common among non-respondents suggesting possible limited generalizability to these EMS workers.</p>	<p>Weaver, M.D., Wang, H.E., Fairbanks, R.J., & Patterson, D. (2012). The association between EMS workplace safety culture and safety outcomes. <i>Prehospital Emergency Care</i>, 16(1), 43-52.</p>
19.	<p>Background: The purpose of this national survey of UK ambulance services was to provide an up-to-date assessment of service provision for children in the pre-hospital setting and to identify the challenges faced in providing optimal services to this group. Methods: Questionnaires were sent to clinical directors of the 16 UK NHS ambulance services in April 2009. Results: Questionnaires were returned by 13 (81%) respondents. Paramedics and most emergency medical technicians receive a limited amount of pediatric training. An increasing amount of equipment suitable for children is becoming available, but services for children vary depending on location. For example, pediatric airway adjuncts (short of intubation) were often lacking, and only 62% reported having pulse oximetry suitable for use in children. Four of the 13 respondents (31%) considered it 'possible or highly likely' that someone with no specific training could be the first to respond to a child in an emergency, and seven (54%) indicated that the likelihood that the first response to a child could be someone with no current qualification specific to pediatrics was 'high'. There are large areas of the country where no formal medical support is available at any time of day. Conclusions: Despite improvements, pediatric care by front-line personnel is limited by resource and availability of staff with key skills. Accepted standards are often lacking. Collaborative audit, research and training initiatives should be carried out between services and acute trusts to meet local service requirements. This will reduce variation and maintain the safety of patients and quality of care.</p>	<p>Houston, R. & Pearson, G.A. (2010). Ambulance provision for children: A UK national survey. <i>Emergency Medicine Journal</i>, 27, 631-636.</p>

No.	Description	Reference
20.	<p>Background: Ventricular fibrillation occurs in 10-20% of pediatric cardiac arrests. Survival rates in children with ventricular fibrillation can be as high as 30% when the rhythm is identified and treated promptly. In the last 5 years, recommendations have been made for the use of automated external defibrillators in children between one and eight years of age. Objective: The goal of this study was to determine the awareness of the ILCOR guidelines and statewide protocols concerning AED use in children ages one and eight among emergency medical providers after new guideline release. Availability of pediatric capable AED equipment was also assessed. Methods: Surveys were distributed to EMS providers in Iowa and Montana within one year of the ILCOR advisory statement in 2003 recommending use of AEDs in children ages one and eight, and again approximately one year after the 2005 ILCOR guidelines on cardiopulmonary resuscitation were published. In Iowa, there were concentrated efforts to disseminate information about AED use in children, while there were minimal efforts in Montana. Results: Awareness of ILCOR guidelines for use of AEDs in children was low in both states in 2003 (29% in Iowa vs. 9% in Montana, $p < 0.001$). After release of the 2005 guidelines, awareness improved significantly in both states but was still significantly greater in Iowa (83% vs. 60%, $p < 0.002$). In 2003, less than 20% of respondents in both states reported access to pediatric capable AEDs. Availability of pediatric pads and cables increased significantly in 2006 but remained low in Montana (74% in Iowa vs. 37% in Montana, $p < 0.001$). Conclusions: At the present time, publication of new or interim guidelines in the scientific literature alone is insufficient to ensure that new protocols are implemented. An effective and efficient method to disseminate new pediatric out-of-hospital protocols emergency care to become standard of care in a timely matter must be developed. Limitations: Limitations of this study include a smaller sample size with the repeat survey in 2006. Approximately one-third to one half fewer responses were received compared to initial survey. Those providers with greater awareness and access may have disproportionately responded to the survey. This would result in an overestimation of both awareness and access.</p>	<p>Haskell, S.E., Kenney, M.A., Patel, S., Sanddal, T.L., Altenhofen, K.L., Sanddal, N.D., & Atkins DL. (2008). Awareness of guidelines for use of automated external defibrillators in children within emergency medical services. <i>Resuscitation</i>, 76(3), 354-359.</p>
21.	<p>Background: The role of paramedics with extended skills is evolving, enabling them to assess and treat patients in the community. A United Kingdom service led by extended-role paramedic practitioners (PPs) is aimed at managing minor acute illness and injury among older people in the home when appropriate, avoiding unnecessary transfer to the emergency department (ED). Objectives: The objectives were to evaluate the safety of clinical decisions made by PPs operating within the new service. Methods: As part of a cluster-randomized controlled trial, patients aged >60 years contacting the emergency medical services (EMS) with a minor injury or illness were included in the study. The safety of the new PP intervention was compared with standard practice of EMS transfer and ED treatment. Outcomes included unplanned ED attendance within seven days of the index episode. Clinical records were rated independently by two senior ED clinicians to identify related episodes, avoidable subsequent episodes, and suboptimal care. Results: Of the 2,025 patients included in this analysis, 219 (10.9%) went on to have an unplanned ED attendance within seven days. Of these, 162 (74.0%) re-presented with a condition related to their index episode. The independent raters agreed on suboptimal care 83.4% of the time. There were 16 agreed upon episodes related to suboptimal care (0.80%). No significant differences were found between intervention and control groups in relation to re-presentation at hospital within seven days for a related condition or rates of assessed suboptimal care. Conclusions: This study suggests that appropriately trained paramedics with extended skills treating older people with minor acute conditions in the community are as safe as standard EMS transfer and treatment within the ED.</p>	<p>Mason, S., Knowles, E., Freeman, J., & Snooks, H. (2008). Safety of paramedics with extended skills. <i>Academic Emergency Medicine</i>, 15(7), 607-612.</p>

No.	Description	Reference
22.	<p>Study objective: Emergency medical services (EMS) provide care to acutely ill or injured patients in settings less controlled than other health care environments. Although reports describing individual EMS adverse events exist, few broader descriptions exist. The objective of the study is to characterize the types, frequencies, and outcomes of adverse events associated with insurance tort claims against EMS providers. Methods: The authors performed a retrospective review of insurance liability claims from a national insurer of EMS agencies. They studied closed and open insurance liability claims from January 1, 2003, to December 31, 2004, arising from EMS response to or provision of patient care and associated with injury to patients or other individuals. They excluded events associated with employee injuries only, events with property or vehicle damage only, and emergency vehicle crashes with less than \$10,000 in actual or predicted total incurred costs. These investigators identified the category of the adverse event, the characteristics of the treating emergency units, the injured individuals, the associated injuries, and the estimated or actual total incurred costs. Results: Among 326 claims included in the analysis, adverse events included emergency vehicle crash or movement (n=122; 37%; 95% confidence interval [CI] 32% to 43%), patient handling (n=118; 36%; 95% CI 31% to 41%), clinical management (n=40; 12%; 95% CI 9% to 16%), response or transport events (n=25; 8%; 95% CI 5% to 11%), and other events (n=33; 10%; 95% CI 7% to 14%). Associated injuries included death (n=54; 17%; 95% CI 13% to 21%), life-threatening or disabling injuries (n=25; 8%; 95% CI 5% to 11%), and non-life-threatening or other injuries (n=247; 76%; 95% CI 71% to 80%). The median estimated total incurred cost was \$17,000 (interquartile range \$7,000 to \$42,000). Conclusion: Emergency vehicle crashes and patient handling mishaps were the most common adverse events associated with tort claims against EMS agencies. Clinical management and other incidents were less common. This effort highlights potential areas for improving EMS operations and care.</p>	<p>Wang, H.E., Fairbanks, R.J., Shah, M.N., Abo, B.N., & Yealy, D.M. (2008). Tort claims and adverse events in emergency medical services. <i>Annals of Emergency Medicine</i>, 52(3), 256-262.</p>
23.	<p>Objective: Despite the widespread use of standard treatment protocols, there are few published data regarding paramedic protocol adherence. In this descriptive study, the authors sought to assess the frequency and nature of deviations from a standardized treatment protocol for the chief complaint of chest pain. They also sought to quantify any time delays in treatment of potential ischemic cardiac chest pain. Methods: A retrospective review of written documentation obtained from four ambulance services in a mid-Atlantic state was completed. A convenience sample of consecutive emergency medical services (EMS) records was obtained from January 2001 to May 2002, and 75 calls were selected from each service (N = 300). Results: Neither the median scene times nor the response times varied among the four services in the study. However, the suburban ambulance service (service one) did have a significantly longer transport time (19 minutes) than the rural (14 minutes) and the urban (11 and 10 minutes) services (p < 0.05). Documentation of history and physical characteristics varied widely for each service. The patient took aspirin 10% of the time prior to EMS arrival, yet paramedics gave it additionally 50% of the time, while nitroglycerin was given in 73% of cases of suspected cardiac ischemia. Posttreatment vital signs for nitroglycerin were documented 30% of the time for three of the four services, while the other service documented these 75% of the time. Medical command contact varied by agency (80-100%), as did the receipt and completion of medical orders. Conclusions: Paramedics may delay transport of patients with potential cardiac ischemia. Deviations from protocol occur frequently and the care documented for prehospital patients with chest pain is variable. The expected care described by written protocols does not correlate with the treatment documented. Limitations: This study is limited to a descriptive and retrospective analysis of chest pain trip sheets. Moreover, it is limited to the assessment and treatment as documented by paramedics and may not truly represent the level of assessment and care provided on all calls.</p>	<p>Rittenberger, J.C., Beck, P.W., & Paris, P.M. (2005). Errors of omission in the treatment of pre-hospital chest pain patients. <i>Prehospital Emergency Care</i>, 9(1), 2-7.</p>

Grey Literature

No.	Description	Reference
24.	<p>A number of national reports have raised concerns about pre-hospital care for seriously ill and injured patients and recognised that more lives could be saved. South East Coast Ambulance Service NHS Trust (SECAmb) has responded to this challenge by developing 'critical care paramedics' (CCPs) with enhanced clinical capabilities. This report outlines the key findings and lessons from an evaluation of the CCP programme. It looks at the achievements and challenges of this clinical innovation at SECAmb to treat high-risk patients. Numerous national reports have acknowledged the need to improve the quality of hospital and pre-hospital care for high-risk patients and to reduce the 450–770 preventable deaths in England each year. The US emergency medical system delivers 20 per cent lower mortality rates than the UK for trauma patients and is based on using paramedics rather than doctors in pre-hospital care; these systems sometimes include a 24/7 telemetric online 'virtual' medical presence at scene when required. This technology may have wider application in the UK. The system design in the US is often referred to as the 'Anglo-American Model,' as opposed to the 'Franco-German Model' which substitutes doctors in the paramedic role. The concept of operation used in this CCP study is based on the 'Anglo-American' model of ambulance service delivery, specifically the Melbourne, Australia variant which SECAmb is still developing towards, training paramedics to CCP level in order to treat high-risk patients in the pre-hospital environment more effectively. CCPs have developed a higher-level clinical knowledge base with an emphasis upon patient assessment together with some clinical skills relating to airways and cardiovascular management. CCPs are currently being under-utilised in the critical care transfers role, and opportunities exist to work more closely with secondary care (hospital) providers to make this service more widely available. International evidence is inconclusive as to whether doctors save more lives or achieve better clinical outcomes than paramedics operating at CCP level in pre-hospital care, but such medically-based systems, which substitute doctors in the paramedic role, are substantially more expensive to operate. Cost-benefit analysis shows 'value of life saved' is £34,000 for paramedics operating as CCPs, compared to £252,000 for doctors providing the same provision in the field. Medical input, while important to ambulance services, is likely to be most economically effective when focused upon 'high-level' clinical governance and education input, rather than duplicating what could be accomplished by paramedics at a much lower cost.</p>	<p>The National Institute for Health Research (NHS). (2011). <i>Critical care paramedics</i>. The Ambulance Service Network (ASN), The NHS; London, UK.</p>

No.	Description	Reference
25.	<p>Every day, patients are at risk of harm in the healthcare system. Emergency medical services (EMS) personnel often care for patients in challenging and dynamic environments, leading to a milieu ripe with potential patient safety hazards. To begin to formally address current patient safety issues in EMS, the Emergency Medical Services Chiefs of Canada (EMSCC) and the Calgary EMS Foundation partnered with the Canadian Patient Safety Institute (CPSI) to fund research exploring patient safety in the unique EMS setting. The project included three phases: a systematic review of the literature, qualitative interviews of key informants from Canada and abroad, and a roundtable event that brought together leaders in EMS and patient safety experts to discuss the successes, challenges and future direction of the patient safety movement in Canadian pre-hospital care. Systematic Review: The first phase of the research involved a comprehensive systematic review of the literature to collate all current knowledge of patient safety specific to emergency medical services, yielding 4274 results. Seventy one resources included in the review, in which only two were randomized controlled trials and most were retrospective chart reviews. Aside from a paucity of high quality research, it was clear that many important and relevant patient safety areas in EMS were untouched by the literature. Key Informant Interviews: The authors contacted 20 key informants, selected by the pan-Canadian Advisory Group, from across Canada and abroad to gain their perspective on patient safety in EMS. Informants were paramedics, administrators, educators, physicians, patient safety experts or allied health professionals, and one patient perspective. Highly experienced qualitative researchers conducted interviews with 16 informants and analysed the data for commonly held views. Clinical judgment and the training required to make coherent decisions was profoundly identified as the greatest risk to patient safety, stemming mainly from the public safety roots from which EMS has emerged. EMS providers in Canada are educated to the primary care level through a one to two year diploma at a community college and can upgrade to advanced, critical care, or air medical transport certification through further study and on the job training. They are currently not a regulated health profession. In most provinces they perform medical acts delegated by a medical director and under his or her license with the respective provincial/territorial College of Physicians and Surgeons. Paramedic education is accredited by the Canadian Medical Association. Many participants were at odds with each other either in support of a regulated health profession versus protocolized medicine; however, both perspectives felt that their approach would reduce patient safety issues. Medication incidents and vehicle collisions were downplayed by the majority of key informants who felt that, although easy to capture and study, adverse events associated with these themes did not have the greatest impact on patient safety. Roundtable Event: The authors invited over 60 experts from the patient safety and EMS worlds to meet face-to-face in Niagara Falls, Ontario, for a one-day roundtable discussion on Patient Safety in EMS. The day featured presentations highlighting the findings of both the systematic review and qualitative research followed by three break-out sessions and large group discussions to engage participants in dialogue relevant to: the research findings and gaps associated with the results; current best practices, interventions and programs that can minimize or mitigate potential patient safety risks; and a path forward for shared efforts to improve patient safety in EMS in Canada. Participants focused heavily on minimizing adversity through enhanced clinical judgment and training. Nine strategic priorities were agreed upon by participants and the summation of the roundtable event (e.g., make patient safety a priority/corporate value within the organizations and profession, create a web based reporting and learning system accessible 24-7 which records adverse events and close calls unique to the pre-hospital setting).</p>	<p>Bigham, B.L., Morrison L.J., Maher, J., Brooks, S.C., Bull, E., Morrison, M., et al. (2009). <u>Patient Safety in Emergency Medical Services: Advancing and Aligning the Culture of Patient Safety in EMS.</u> Canadian Patient Safety Institute. The Canadian Patient Safety Institute. Canada.</p>

SECTION IV

Regulation of a New Health Profession under the
Regulated Health Professions Act (RHPA), 1991:

Literature Review – Part II

Literature Review Part II

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**A Rapid Literature Review on
the Practice of the Paramedic and
Emergency Medical Attendant Professions**

PLANNING UNIT PRODUCT # 282

**Prepared by the Planning Unit
Planning, Research and Analysis Branch
Health System Strategy & Policy Division
Ministry of Health and Long-Term Care
December 2012**

Please note that this Rapid Literature Review is a summary of information from other sources, not a representation of the policy position or goals of the Ministry of Health and Long-Term Care. If material in the review is to be referenced, please cite the original, primary source, rather than the review itself.

OBJECTIVES

The requestor's stated objectives were to examine 1) the practice of the paramedic and emergency medical attendant (EMA) professions, 2) the interprofessional collaboration of individuals in these occupations, and 3) community paramedicine.

For the purposes of this review, the practice of the profession refers to the job profiles, scope of practice, models of practice (i.e., what types of tasks paramedics and EMAs do on the job), and educational requirements of the professions. Interprofessional collaboration refers to how paramedics and EMAs work with one another and other health professionals, while on the job (including potential challenges and best practices). The jurisdictions examined in this review include the United States, United Kingdom, Australia, and New Zealand.

SEARCH METHODS FOR IDENTIFICATION OF STUDIES

Individual peer-reviewed articles and review articles were identified through the Ontario Ministry of Health and Long-Term Care's computerized library database, PubMed, and Google Scholar. Grey literature was identified through Google and relevant government websites. The search was limited to English sources and therefore may not capture the full extent of initiatives in non-English speaking countries.

The Medical Subject Heading (MeSH) terms "Allied Health Personnel," "Emergency Medical Technicians," "Education," "Licensure," "Certification," "Social Control, Formal," "Social Control, Informal," and "Professional Autonomy," "Interprofessional Relations," "Emergency Medical Services," "Allied Health Professional," "Continuity of Patient Care," "Communication," "Community Health Service," "United States," "Australia," "Great Britain," and "New Zealand" were used in combination with the following keywords to identify relevant articles and documents for this review: "scope of practice," "model of practice," "regulation," "educational requirements," "training standards," "controlled acts," "prehospital emergency care," "emergency medicine," "interprofessional collaboration," "community paramedicine," "community paramedic," "community paramedicine models," "extended role paramedic practitioners," "patient handoff," "patient handover," and "paramedic."

A total of 46 references were identified and cited in this review: four review articles, 19 original research papers from peer-reviewed journals, and 23 documents from the grey literature. [Table 4](#) in the Appendix consists of a summary table with details for each of the sources cited in the review. In total, the searching for relevant material and writing of this review was conducted by three people in five working days.

SUMMARY OF MAIN FINDINGS**Practice of the Profession in Other Jurisdictions**

- The US, UK, Australia and New Zealand have established several different levels of practice for emergency services personnel within their jurisdictions, with paramedic titles being recognized as the highest level of practice.
- The national regulatory regimes in the US and UK are more standardized and established than those currently in place in Australia and New Zealand.

Expanding Scope of Practice

- The role of paramedics has been expanding in countries such as the UK, US, Canada, and Australia. Examples include allowing for paramedics to have increased decision-making authority to treat and release patients, or to be engaged in wider activities such as immunization efforts.
 - In some cases, the expanded paramedic scope of practice has been accompanied by the designation of new role titles and job descriptions such as emergency care practitioner or paramedic practitioner, as well as by the development of new models of practice and interprofessional collaboration.
- Benefits associated with an expanded scope of practice included reduced costs for the healthcare system, increased convenience and accessibility of care, and enhancement of community healthcare resources.
- Concerns included the need for more evidence-based practices, paramedics' abilities for determining the necessity of medical transport, and patient safety.

Interprofessional Collaboration

- Information loss in patient handover was a major theme of the literature focusing on the challenges; solutions to facilitate effective handovers and reduce information loss in patient handover focused on use of structured processes and templates, improving multidisciplinary education, and the involvement of appropriate and experienced personnel.
- Articles offering insights on effective models of EMS providers' interprofessional collaboration emphasized factors such as the importance of respect and communication; the benefits of improved team collaboration over time; the value of paramedic partnerships with other health care professionals; and the possibilities for serving the needs of remote areas with community-based expanded scope paramedics (known as community paramedicine).

DESCRIPTION OF THE FINDINGS

The role of paramedics and EMAs traditionally^a has been defined by providing basic first aid and patient transportation services (Ball, 2005; Al-Shaqsi, 2010), but recently this role has been expanding in countries such as the UK (Cooke, 2006), US, Canada, and Australia (Krumperman, 2010). Examples include allowing for paramedics to have increased decision-making authority to treat and release patients (Cooper et al. 2009), or to be engaged in wider activities such as immunization efforts (Krumperman, 2010). Some of the drivers for these developments have been the desire to reduce unnecessary ambulance transports (Brown et al. 2009), address shortages of health care workers, especially in rural and remote areas (Raven et al. 2006), and offer more convenient and timely treatment to patients (Cooke, 2006). In some jurisdictions the expanded paramedic scope of practice has been accompanied by the designation of new role titles and job descriptions such as emergency care practitioner or paramedic practitioner, as well as by the

^a Countries that have used this particular model of emergency medical service delivery include the United States, Canada, New Zealand, Sultanate of Oman and Australia. By contrast, the role of emergency services in continental Europe is more typically characterized by a "stay and stabilize" philosophy built around undertaking more advanced on-scene interventions and "bringing the hospital to the patients" rather than minimizing interventions and "bringing patients to the hospital" as rapidly as possible (Al-Shaqsi, 2010).

development of new models of practice such as community paramedicine and new modes of interprofessional collaboration.

Section One of this review provides a summary of the existing role profiles for paramedics and Emergency Medical Attendants (EMAs) in the US, UK, Australia and New Zealand. Section Two offers an overview of the perceived benefits and risks of expanding the paramedic scope of practice. Section Three outlines recent literature concerning interprofessional collaboration between paramedics and other professionals.

For the purpose of this review, emergency care practitioners (ECPs) are defined as “experienced nurses or paramedics working in autonomous but collaborative roles in the out-of-hospital settings; seeing, treating, releasing (or referring) patients with predominantly minor conditions.” Paramedic Paramedic practitioners (PPs) are defined as having a similar vision and scope of practice as ECPs, but limited to the paramedic profession (Cooper et al., 2009).^b

1. Jurisdictional Scopes of Practice

1.1. United States

The National Registry of Emergency Medical Technicians (NREMT) provides national certification of EMTs and paramedics in the United States. However, some states have their own certification programs and different titles. The tasks or procedures EMTs and paramedics are allowed to perform at any level vary by state (US Department of Labor, 2012).

1.1.1 NREMT certification levels

The NREMT currently certifies five levels of Emergency Medical professionals (NREMT, 2012a):

- First Responders (approximately 40 hours of training)
- Emergency Medical Technician (EMT) – Basic (approximately 110 hours of training),
- EMT – Intermediate/85 and EMT – Intermediate/99 (approximately 200-400 hours of training)
- Paramedic (1,000 or more hours of training) (NREMT, 2012b)

To achieve each of these levels of certification, the NREMT requires successful completion of EMS education, passing a practical performance examination and a computer based examination (NREMT, 2012c).

1.1.2. National Highway Traffic Safety Administration (NHTSA) licensure levels

The National Highway Traffic Safety Administration (NHTSA) also defines and describes four levels of EMS licensure within the US National EMS Scope of Practice Model (NHSTA, 2007). These include:

- Emergency Medical Responder (EMR)
- Emergency Medical Technician (EMT)

^b Paramedics with an expanded scope of practice also may be described under other job titles or role definitions. Examples include community paramedics (based in general practice surgeries), critical care paramedics (based in hospital intensive care facilities), and treat and refer paramedics (based in minor injury units/walk-in centres) (Ball, 2005). Other common titles and scopes of practice paramedics are included in Section One and Appendix A which outline the official certification and licensure levels employed within the four jurisdictions examined in this review.

- Advanced EMT (AEMT)
- Paramedic

The EMS National Scope of Practice is intended to serve as a guide for US states in developing their own scope of practice legislation, rules, and regulations (NHTSA, 2007). Currently, 46 states require their EMS professionals to be certified by the National Registry of EMTs in order to obtain a license to practice as an EMS professional in their state. Some states require their EMS professionals to maintain certification with the NREMT as part of the continued license; others have their own license renewal process. All EMS professionals are required to complete continuing education (NREMT, 2012b).

1.1.3. Difference between certification and licensure

As outlined by the NREMT (NREMT, 2012d), there are some essential differences between certification and licensure:

- Certification is: (1) a voluntary process; (2) provided by a private organization; and (3) used for the purpose of providing public information on those individuals who have successfully completed a certification process (usually entailing successful completion of educational and testing requirements) and demonstrated their ability to perform their profession competently.
- Licensure is the state's grant of legal authority, pursuant to the state's police powers, to practice a profession within a designated scope of practice. Under the licensure system, states define, by statute, the tasks and function or scope of practice of a profession and provide that these tasks may be legally performed only by those who are licensed. As such, licensure prohibits anyone from practicing the profession who is not licensed, regardless of whether or not the individual has been certified by a private organization.

Confusion between the terms "certification" and "licensure" may arise because many states call their licensure processes "certification," particularly when they incorporate the standards and requirements of private certifying bodies in their licensing statutes and require that an individual be certified in order to have state authorization to practice. Nevertheless, certification by the National Registry, by itself, does not give an individual the right to practice (NREMT, 2012d).

The scope of practice for the NHTSA's four levels of licensure (NHTSA, 2007) is outlined in Table 1 (Appendix A), along with the NREMT's description of the recommended amount of education required for each level (NREMT, 2012c).

1.2. United Kingdom

1.2.1. Overview of the profession

Emergency medical services in the UK are coordinated by National Health Service (NHS) Ambulance Service Trusts. There are 11 of these in England providing emergency access to health care. Ambulance services in Scotland, Wales, and Northern Ireland are provided by their respective Ambulance Services Trusts (NHS, 2011).

Ambulance crews in the UK may include a range of medical staff such as a/an:

- Emergency care assistant (ECA)^c
- Paramedic; and
- Senior paramedic (or emergency care practitioner)

To work as a paramedic in the UK, a person must be registered with the Health and Care Professions Council (HCPC) (NHS Careers, 2012). The HCPC also regulates and approves educational programs that meet the HCPC's standards of education and training for paramedics (HCPC, 2012b). A person who successfully completes an approved program is deemed to meet the HCPC's standards of proficiency for their profession and is able to apply to the HCPC Register (HCPC, 2012b).

Additionally, paramedics also may belong to a professional body in the UK called the College of Paramedics (CoP). Among other objectives, the CoP seeks to represent the views of the paramedic profession to government, employers and other external bodies and to encourage higher standards of professional education and development (CoP, 2009).

1.2.2. UK EMS scope of practice and educational requirements

Paramedics' scope of practice is determined by the HCPC and is outlined in the document, Standards of Proficiency: Paramedics. By being a registered member of the HCPC and following its standards of proficiency, members gain the right to use the protected title of their profession ('paramedic') (HCPC, 2012a). The standards of proficiency document for paramedics details the expectations for registered paramedics, skills required for the application of practice, as well as the knowledge and understanding skills needed to practice.

Traditionally, staff joining an ambulance service had been able to work their way up with experience and additional training from care assistant, through ambulance technician to paramedic. This route is no longer open to new entrants. Anyone wishing to work as a paramedic now needs to either secure a student paramedic position with an ambulance service trust, or attend an approved full-time course in paramedic science at a university (NHS Careers, n.d,c).

A summary of emergency ambulance crew member roles and education requirements is provided Table 2 (Appendix A).

1.3. Australia and New Zealand

1.3.1. Overview of the profession

Emergency medical services are coordinated by regional ambulance services, which provide both pre-hospital emergency care and the transport of sick or injured individuals through the provision of on-site paramedics (See Eburn & Bendall, 2010). Due to the current absence of national regulation in Australia (and the pending registration of paramedics in New Zealand), the scope of practice for individuals engaged within paramedicine varies among jurisdictions and engaging organisations (Paramedics Australasia, 2012b; Williams et al., 2009).

^c The role of ambulance technician is currently being replaced with emergency care assistants.

A 2009 discussion paper notes that currently, clinical practice and licensure is provided by each individual ambulance service at the local/territory level in Australia (Williams et al., 2009). Recently, there has been discussion within academic literature (e.g., Eburn & Bendall, 2010; Williams et al. 2010; 2009) and among professional bodies (e.g., Paramedics Australasia) advocating for further advancing the professionalization of the paramedicine field in Australia and New Zealand (Cotton, 2012).

1.3.2. Australia and New Zealand EMS scope of practice and educational requirements

Paramedicine in Australia and New Zealand covers a broad range of classifications,^d however only professional classifications are described here as this stream is specific to individuals trained as paramedics. Paramedics Australasia, a national professional association representing practitioners who provide paramedic services to the community in Australia and New Zealand, has contributed to setting standards of practice for the paramedic profession, including the development of paramedic competencies that inform the design of paramedic education programs. These competencies are organized into three domains (i.e., professional practice, clinical practice, and professional knowledge) and are highlighted in a document called the Australasian Competency Standards for Paramedics (Paramedics Australasia, 2011).

To work as a paramedic in Australia or New Zealand, a university Bachelor degree in paramedic or health science is required (Paramedics Australasia, 2012d). The Council of Ambulance Authorities, which represents the providers of ambulance services in each State and Territory of Australia and in New Zealand, accredits^e entry-level paramedic education programs (The Council of Ambulance Authorities, n.d.a; n.d.b).

A summary of current clinical roles and educational requirements in paramedicine within these jurisdictions is provided in Table 3 (Appendix A).

2. Potential Benefits and Concerns in Expanding the Paramedic Scope of Practice

Studies that found benefits to an expanded paramedic scope of practice identified the potential for reducing the costs for the healthcare system, increasing the convenience and accessibility of care; enhancing community resources; and supporting the roles of other health professionals. For example:

- A 2008 UK randomized control trial revealed that having expanded scope paramedic practitioners (PPs) address the needs of older patients contacting emergency dispatch for falls or other non-life threatening injuries reduced the proportion of emergency department (ED) attendances (53.3% vs. 84%) and time in the emergency department (126.6 vs. 211.3 minutes), when compared with the dispatch of ambulance crews (without PPs). Although this study noted some increased use of health services in the days following the incident for patients in the intervention group, it found that the total costs for the

^d These classifications include professional (i.e., paramedic, intensive care paramedic, retrieval paramedic, general care paramedic), technical (e.g., first responder, patient transport attendant – level 1, patient transport attendant – level 2, basic life support medic) and ambulance communications (e.g., emergency medical dispatch support officer, emergency medical dispatcher) streams of engagement (Paramedics Australasia, 2012b).

^e Graduates from fully accredited programs will be given preference for employment over non accredited programs, subject to all other employment conditions being met with the individual employer (The Council of Ambulance Authorities, n.d.c).

intervention group were £140 lower than for the control group when routine data (i.e., clinical data from hospitals' patient administration system, emergency department, and ambulance service records) were included (Dixon et al. 2008).

- A 2007 UK study of ECPs working in existing emergency service models of care found that care provided by ECPs appeared to reduce the need for subsequent referral to other emergency and unscheduled care services in a large proportion of the cases. It found no evidence that care provided by an ECP was less appropriate than the care provided by the usual providers for the same type of health problem (Mason et al. 2007).
- A 2006 UK study indicated that 54% of the contacts with ECP services did not require referral to another health professional or use of emergency transport. It also found that the cost range per ECP patient contact was £24 to £29 per patient compared to an ED contact cost of £55 per patient (Mason et al. 2006).
- A 2007 Australian qualitative study concluded that using extended scope paramedics in rural locations can improve health care through increasing community response capacity, linking communities more closely to ambulance services, and increasing health promotion and illness prevention work at the community level (Stirling et al. 2007).

Studies that identified risks relating to an expanded paramedic scope of practice focused on issues such as the need for more evidence-based practices, paramedics' abilities for determining the necessity of medical transport, and patient safety. For example:

- A 2012 study of the New Mexico Emergency Medical Services (EMS) scope of practice – which, like those of other US states, has been changed or expanded over time – identified 22 interventions with concerning harm-benefit ratios that were flagged for further analysis.^f The study also noted that much like EMS care nationally, few EMS interventions have been assessed for efficacy, potential harm, or potential benefit. The authors suggest it is possible that many interventions that have been added to the EMS scope of practice over the years may no longer be supported by the evidence and may be outdated, harmful, or ineffective in the EMS setting (Munk et al. 2012).
- A 2009 meta-analysis noted that the few studies evaluating US paramedic determinations of medical necessity for ambulance transport vary considerably, and only two studies reported complete data. Overall, however, it found an aggregate undertriage^g rate of between 9% and 29%. The authors conclude that the data do not support the practices of paramedics determining whether patients require ambulance transport (Brown et al. 2009).^h
- A 2006 UK study of short-term outcomes of older people left at home by emergency crews after a fall found that 49% of the people made healthcare contacts within the two-week follow-up period, with 47% calling emergency services again at least once. There was also an increased risk of death (2.3% versus 0.43%) among these patients compared with the corresponding general population in London (Snooks et al. 2006).

^f The most concerning interventions included the use of compressed air anti shock trousers, the use of certain airway control devices, and the administration of certain medications

^g In this study, undertriage refers to instances where paramedics determined that medical transport to, or treatment in, an emergency department was unnecessary but this determination later turned out to be incorrect.

^h According to a 2006 report, the ability to triage patients effectively may be influenced in part due to the considerable variation in EMT training throughout the US (Raven, 2006).

- The 2006 UK study on the effectiveness and costs of contacts with ECP services noted recurrent themes raised in the interviews with those involved in the study included patient safety; appropriate levels of governance and supervision; a generic element to education and training to facilitate transferability of skills between NHS providers; and workforce issues around the safety, recruitment, and retention of staff (Mason et al. 2006).

3. Interprofessional Collaboration

The challenges associated with clinical handovers were a major theme of the literature identified on interprofessional collaboration between paramedics and other health care professionals. Other themes concerned effective models for enhancing interprofessional collaboration, the value of combined team training, the potential uses of technology, and the opportunities offered by the community paramedicine model of practice.

3.1. Challenges associated with clinical handovers

Clinical handover, where patient information and clinical responsibility is transferred from one set of health care professionals to another, is one episode of care where communication failures can occur (Bost et al. 2010; Australian Commission on Safety and Quality in Health Care [ACSQHC], 2008). Governing bodies such as the World Health Organisation¹ recognize the importance of improving information exchange between health care professionals as key to minimizing the risk of patients experiencing an adverse event (Bost et al. 2010).

3.1.1. Potential factors affecting the safety of patient handover

Several factors may affect the safety of patient handovers. A 2012 qualitative study from Denmark identified eight such factors: communication, information, organization, infrastructure, professionalism, responsibility, team awareness, and culture. The study involved a total of 47 interviews with nurses, nurse assistants, physicians, paramedics, and other health professionals from different departments and units. The paramedics (n = 5) had diverse impressions about communicating with the receiving parties in handovers. They sometimes had a definite impression that not all important information they delivered was passed on, written down, received, or understood due to insufficient organisational structures. The study also found that work was done in silos and many of the handover barriers were seen to be related to the fact that only few healthcare providers had a full picture of the patient's complete pathway (Siemsen et al. 2012).

A 2008 report by the Australian Commission on Safety and Patient Quality (ACSQHC) also found that potential barriers to the delivery of effective clinical handover in a variety of healthcare settings may include:

- Lack of a shared understanding or practice
- Lack of interdisciplinary handover and care
- Busy-ness
- Hierarchical hospital culture
- Interruptions and distractions
- Minimal patient and family involvement
- Lack of training and research (ACSQHC, 2008).

¹ See, for example, World Health Organization (nd), [High 5s Project on Patient Safety](#).

In the specific case of handovers in a trauma centre setting, a 2010 Australian study based on 27 interviews with nurses, paramedics, and doctors found that a noisy environment was considered by nursing staff to adversely impact on handover, while that inattention and dismissive attitudes by trauma team members were among the issues affecting the quality of handovers from the paramedic's perspective. Subjects from all three interview groups made the point that an ineffective handover was one in which perceived extraneous information was communicated and when interruptions occurred (Evans et al. 2010a).

3.1.2. The issue of information loss in patient handover

Two articles that document the extent of information loss in the handover of trauma patients from EMS service providers to hospital staff were identified:

- A 2010 article from Australia found that, in the pre-hospital setting, 75% of data items handed over by paramedics to the trauma team were documented; and, in the in-hospital handover, 67% of information was documented. Information least likely to be documented by trauma team members in the pre-hospital setting related to treatment provided; in the in-hospital setting information least likely to be documented related to signs and symptoms (Evans et al. 2010b).
- A 2009 article from the US showed that, even in single-patient handovers with direct verbal contact between EMS providers and in-hospital clinicians, only 72.9% of the key prehospital data points that were transmitted by the EMS personnel were documented by the receiving hospital staff. Elements such as prehospital hypotension, Glasgow Coma Score, and other prehospital vital signs were often not recorded (Carter et al. 2009).

3.1.3. Factors that may reduce information loss in patient handover

Potential solutions to facilitate effective handovers and reduce information loss in patient handover in the identified literature focused on use of structured processes and templates, improving multidisciplinary education, and the involvement of appropriate and experienced personnel.

A 2010 systematic review of the literature on clinical handover from ambulance service to the hospital emergency department identified three key themes:

1. Important information may be missed during clinical handover;
2. Structured handovers that include both written and verbal components may improve information exchange; and
3. Multidisciplinary education about the clinical handover process may encourage teamwork, a shared common language and a framework for minimum patient information to be transferred from the ambulance service to the hospital emergency department (Bost et al. 2010).

A 2010 article also found that the following factors contributed to effective handovers from paramedics to trauma teams:

- confident and succinct delivery of information;
- experience of the personnel providing the handover; and
- the presence of appropriate personnel to receive the handover, coupled with their ability to actively listen (Evans et al. 2010a).

The article further noted there was a general consensus from both the paramedics and trauma team that using a template to deliver the information in structured manner was a good concept for

reducing information loss, and that the data elements included in the MIST (Mechanism, Injury pattern, Signs, Treatment) template¹ were appropriate (Evans et al. 2010a).

3.2. Effective Models for Interprofessional Collaboration

Articles offering insights on effective models of EMS providers' interprofessional collaboration emphasized factors such as the importance of respect and communication; the benefits of improved team collaboration over time; the value of paramedic partnerships with other health care professionals; and the possibilities for serving the needs of remote areas with community-based expanded scope paramedics (known as community paramedicine).

A 2012 US article suggested that active collaboration between hospitals and EMS was "significantly associated" with lower mortality rates for patients with acute myocardial infarction. It showed that a close collaborative relationship between hospitals and EMS was more apparent in higher performing hospitals. These hospitals made specific investments in and paid attention to EMS through:

- respect for EMS as valued professionals and colleagues,
- strong coordination and communication with EMS, and
- active engagement of EMS in hospital acute myocardial infarction quality improvement efforts (Landman et al. 2012).

A 2007 UK article identified several influences on collaboration in unscheduled emergency care, noting that ECPs' links with other professions were shaped by factors such as the ECP role (e.g., frustrations about patient tasking and conflicting views about teamwork), education and training (e.g., the need for clinical supervision/mentorship) and cultural perspectives (e.g., power and communication conflicts) (Cooper et al. 2007). Recommendations for the enhancement of collaborative practices from this article included:

- the appointment of ECP leads at consultant and masters levels to drive forward the clinical, education, supervision, networking, audit, and research agenda;
- the implementation of short courses designed to break down traditional boundaries and enhance relationship management, self-management, the patient client focus, and political awareness; and
- clinical supervision and mentorship to ensure safe practice and continuous professional development (Cooper et al. 2007).

A 2007 UK article examining a pilot service that dispatched a nurse and paramedic to low-priority ambulance calls found benefits to both patients and staff, with patients being enthusiastic about opportunities for care to be provided in their homes and staff feeling confident in managing calls effectively because of their combined knowledge and skills. Staff also felt that patient care had been improved, and expressed increased job satisfaction and felt they had developed higher levels of skill (Machen et al. 2007). A 2008 UK article on the same type of nurse-paramedic collaboration revealed that introducing this service to the current system of provision would increase the overall cost to the ambulance services. However, it also found a reduction in the transfer rate to the hospital was observed since people could be treated on-scene, leading to reduced admissions to

¹ The MIST template was developed as a tool to assist paramedics to handover information in a systematic manner. It prompts paramedics to communicate to the trauma team the mechanism of injury, injuries sustained, signs and symptoms, and treatment provided (Evans et al. 2010a).

accident and emergency departments and subsequent hospitalization, thereby suggesting there would be cost savings for the health care system (Widiatmoko et al. 2008).

3.3. Combined Team Training

One 2008 US article from the grey literature discussed how combined team training (CTT) can contribute to improved team performance among paramedics, EMTs, and first responders (e.g., firefighters, police officers). It noted that research had shown there were three main areas that distinguish a high-performance team from other teams:

1. Interpositional knowledge gained by team members cross-training on each other's jobs, allowing the team to predict, anticipate, and coordinate more efficiently and effectively.
2. Team communication, including verbal and non-verbal communication skills; the use of timely or informational communication, and brevity, completeness and clarity.
3. Shared mental models, which allow individuals to develop similar visions of what needs to happen to accomplish a team's goal.

The article also offered some general guidelines for developing a CTT program (Tomek et al. 2008).

3.4. Use of Technology

A 2010 US article stated that advanced transmission of data from EMS to receiving hospitals was widely supported by the paramedics and trauma teams in the study. However, while computers carried by paramedics were capable of exporting data to the receiving hospital, barriers such as time constraints, workflow issues and infection control issues impeded the ability to do so (Evans et al. 2010a).

3.5 Community Paramedicine

As defined by the International Roundtable on Community Paramedicine (IRCP), community paramedicine is "a model of care whereby paramedics apply their training and skills in "non-traditional" community-based environments (outside the usual emergency response/transport model). The community paramedic may practice within an "expanded scope" (applying specialized skills/protocols beyond that which he/she was originally trained for), or "expanded role" (working in non-traditional roles using existing skills)" (IRCP, 2012).

According to the description provided on the website of a Canada-US health care cooperative, the purpose of community paramedics is "to respond to identified health needs in underserved communities, ultimately improving the quality of life and health of rural and remote citizens and visitors" (Community Healthcare and Emergency Co-operative, n.d.).

The Long and Brier Islands initiative in rural Nova Scotia is one example of community paramedicine. Under this initiative, paramedics with additional training began to assess and manage simple wounds, administer tetanus injections and flu immunizations and perform home assessments. The paramedics also worked with a team consisting of an onsite nurse practitioner (NP) and paramedics, and an off-site family physician (Martin-Misener et al. 2009).

- A 2009 article concluded that this initiative had resulted in increased access to health services, higher resident satisfaction with health services, improved collaboration among providers, and reduced travel and medication costs (Martin-Misener et al. 2009).

- Another report on this initiative claims that there had been a 23% decrease in emergency department visits from Islanders since this delivery model was implemented (Misner, n.d.).

APPENDIX A

Table 1: NHTSA National EMS Scope of Practice and Educational Requirements^k

Level of Licensure	Description of Profession	Educational Requirements
Emergency Medical Responder (EMR)	<ul style="list-style-type: none"> • Renders on-scene emergency care while awaiting additional EMS response and may serve as part of the transporting crew, but not as the primary care giver. • Often employed to provide a mechanism to increase the likelihood that trained personnel and lifesaving equipment can be rapidly deployed to serious emergencies. In all cases, EMRs work as part of a tiered response system. • Scope of practice includes simple, non-invasive interventions to reduce the morbidity and mortality associated with acute out-of-hospital medical and traumatic emergencies (NHSTA, 2007). 	<ul style="list-style-type: none"> • 58 hours of education (NREMT, 2012c)
Emergency Medical Technician (EMT)	<ul style="list-style-type: none"> • Possesses basic skills focused on the acute management and transportation of critical and emergent patients. Care may occur at an emergency scene until transportation resources arrive, from an emergency scene to a health care facility, between health care facilities, or in other health care settings. • Provides a large portion of the out-of-hospital care. In some jurisdictions, especially rural areas, EMTs provide the highest level of out-of-hospital care. • Scope of practice includes basic, non-invasive interventions to reduce the morbidity and mortality associated with acute out-of-hospital medical and traumatic emergencies. • Minimum licensure level for personnel transporting patients in ambulances (NHSTA, 2007). 	<ul style="list-style-type: none"> • 150 hours of education (NREMT, 2012c)
Advanced Emergency Medical Technician (AEMT)	<ul style="list-style-type: none"> • Possesses basic and limited advanced skills focused on the acute management and transportation of critical and emergent patients. Care may occur at an emergency scene until transportation resources arrive, from an emergency scene to a health care facility, between health care facilities, or in other health care settings. • Provide an option for communities to offer high benefit, lower risk advanced skills for systems that cannot support or justify Paramedic level care. This is frequently the case in rural and volunteer systems. • Scope of practice includes basic, limited advanced and pharmacological interventions to reduce the morbidity and mortality associated with acute out-of-hospital medical and traumatic emergencies (NHSTA, 2007). 	<ul style="list-style-type: none"> • 150 hours of additional education and must be an EMT first • Some states combine EMT and AEMT education in 300 hour courses (NREMT, 2012c)
Paramedic	<ul style="list-style-type: none"> • Possesses basic and advanced skills focused on the acute management and transportation of the broad range of patients who access the emergency medical system. Care may occur at an emergency scene until transportation resources arrive, from an emergency scene to a health care facility, between health care facilities, or in other health care settings. • In some communities, paramedics provide a large portion of the out-of-hospital care and represent the highest level of out-of-hospital care. • Scope of practice includes invasive and pharmacological interventions to reduce the morbidity and mortality associated with acute out-of-hospital medical and traumatic emergencies. • The paramedic has the knowledge associated with, and is expected to be competent in, all of the skills of the EMR, EMT, and AEMT. (NHSTA, 2007). 	<ul style="list-style-type: none"> • 1200 hours of accredited education and must be an EMT first (NREMT, 2012c)

^k Note these educational requirements refer to the standards for licensure (as opposed to certification). Information on the minimum psychomotor skills required for each licensure level can be found in the NHSTA's 2007 *National EMS Scope of Practice Model*.

Table 2: UK EMS Scope of Practice and Educational Requirements

EMS Role	Description of Profession	Educational Requirements
Emergency Care Assistant (ECA)	<ul style="list-style-type: none"> ECAs respond to emergency calls as part of an accident and emergency crew or at times as a first responder They help move patients safely and observe patient vital signs - reporting any changes to the qualified clinician - and communicate relevant information from carers or others at the scene ECAs also drive a range of ambulance service trust vehicles under normal and emergency circumstances and carry out checks to vehicles at the start of and during each shift to ensure that all equipment is stocked and in working order. They also need to know how to use all medical and life support equipment carried on vehicles that is appropriate to their skill level, ECAs assist a qualified paramedic, and must work effectively as part of a larger team of people, including other ambulance service personnel (such as line managers and control room staff), other healthcare staff (such as doctors) and representatives from other emergency services (e.g., fire and police services). ECAs complete relevant documentation and are required to be familiar with communication equipment (including radios and telephones) to inform colleagues about the work they are dealing with. (NHS Careers, n.d.b). 	<ul style="list-style-type: none"> General education. (e.g., secondary school or equivalent qualifications and/or relevant work experience) Six to nine week in service training course¹
Paramedic	<ul style="list-style-type: none"> Generally, paramedics provide specialist care and treatment to patients who are either acutely ill or injured. They can administer a range of drugs and carry out certain surgical techniques (HCPC, 2012). They are the senior healthcare professional at an accident or medical emergency and work on their own or with an ECA. They are usually one of a two-person ambulance crew, with an emergency care assistant or ambulance technician to assist them. However, they might work on their own, using a motorbike, emergency response car or even a bicycle to reach their patients. With extra training, they could also become members of an air ambulance crew (NHS Careers, n.d.c). Paramedics will assess the patient's condition and make potentially life -saving decisions and administer any treatment needed before the patient is transferred to hospital (NHS Careers, n.d.c). This includes: <ul style="list-style-type: none"> Formulating specific and appropriate management plans including the setting of timescales (HCPC, 2012a); and Maintaining records appropriately as well as conduct appropriate diagnostic or monitoring procedures, treatment, therapy or other actions safely and skilfully (HCPC, 2012a). They are trained to resuscitate and/or stabilise patients using sophisticated techniques, high-tech equipment and drugs(NHS Careers, n.d.c). They must also practise in accordance with current legislation governing the use of prescription-only medicines by paramedics (HCPC, 2012a). <ul style="list-style-type: none"> Under medicines legislation, registered paramedics can administer a range of parenteral medicines on their own initiative for the immediate, necessary treatment of sick or injured persons without the usual requirement for a prescription or directions of a prescriber (Medicines and Healthcare Products Regulatory Agency Website, 2005). 	<ul style="list-style-type: none"> Secure a student paramedic post with ambulance service trust; or Attend an approved full-time university course in paramedic science.

¹ An emergency care assistant takes a six to nine week in-service training course in which they learn moving and handling techniques, first aid, basic patient skills and safe driving techniques. The course incorporates assessment and written practical examinations, successful trainees are then attached to an ambulance station where they work under the guidance of a trained supervisor for a probationary period before working unsupervised (NHS Careers, n.d.b).

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Senior Paramedic (or Emergency Care Practitioner)	<ul style="list-style-type: none"> • The role of senior paramedic utilises the skills of paramedics and other professionals (such as specialist nurses with additional skills) to support the first contact needs of patients in unscheduled care. • A senior paramedic is a more advanced role to a paramedic and may have a range of job titles, including emergency care practitioner. • A senior paramedic undertakes a range of activities that include: <ul style="list-style-type: none"> ○ Undertaking basic procedures in the home ○ Carrying out and interpreting diagnostic tests ○ Undertaking routine assessments of patients with long term conditions in their home ○ Referral of patients to social care services, and directly admitting patients to specialist units ○ Prescribing a wider range of medications • A senior paramedic is typically based in GP surgeries, minor injuries units and hospital emergency departments. They may see patients in their own home. (NHS Careers, n.d.d; NHS Careers, 2012) 	<ul style="list-style-type: none"> • Experience as a qualified practitioner (e.g., paramedic) • Receipt of additional training (e.g., greater assessment, examination skills and training for treatment of minor injuries and illnesses).
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Table 3: Australia and New Zealand EMS Scope of Practice and Educational Requirements

EMS Role	Description of Profession	Educational Requirements
Paramedic ^m	<ul style="list-style-type: none"> • A paramedic is a health professional who provides rapid response, emergency medical assessment, treatment and care outside the hospital environment (Paramedics Australasia, 2012d). • Paramedics respond to, assess and manage patients, transport them to a health facility for ongoing care (if necessary) or arrange alternative referral, treatment or care options (Paramedics Australasia, 2012d). • They are often required to make complex and critical clinical judgements without direct supervision (Paramedics Australasia, 2012d). • Their scope of practice includes intermediate life support,ⁿ use of infection control practices, emergency management of patients and various conditions,^o electrocardiogram monitoring and interpretation, mental health crisis intervention, management of patients across the lifespan, use of stretcher and other patient movement devices, emergency driving, emergency management and triage, extrication and basic rescue, basic nursing, access to a range of patient referral pathways (depending on local circumstance) (Paramedics Australasia, 2012d). • A paramedic also gathers appropriate information regarding patient's health status, generates health care records, and monitors and evaluates the effectiveness of the care plan (Paramedics Australasia, 2011). 	<ul style="list-style-type: none"> • Bachelor degree in Paramedic or Health Science^p • Internship program

^m Other vocational titles (non-army or defence) include: ambulance paramedic; paramedic 3; advanced care paramedic; intermediate life support paramedic (Paramedics Australasia, 2012d).

ⁿ As defined by the Australian Resuscitation Council in Australia or the Ambulance Service Sector Standard 8156 and New Zealand National Clinical Guidelines in New Zealand (Paramedics Australasia, 2012d).

^o Including but not limited to: cardiac arrest, anaphylaxis, burns, narcotic over dose, odema, hypoglycaemia, pain control (using narcotics), traumatic brain injury, spinal injury (See Paramedics Australasia, 2012d).

^p A Diploma of Paramedical Science (Ambulance) is still used by some organizations who hire paramedics, however all major ambulance services in Australia now require paramedic qualifications via university programs (Paramedics Australasia, 2012d).

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Intensive Care Paramedic (ICP) ^q	<ul style="list-style-type: none"> • An ICP is an advanced clinical practitioner in paramedicine that provides medical assessment, treatment and care in the out of hospital environment for acutely unwell patients with significant illness or injury. • They respond to patients experiencing an acute, life threatening emergency to provide rapid and specialist clinical assessment and implement a targeted management plan for patients with significant alteration or challenge to normal homeostatic function. All patient care is undertaken in collaborative context with other Paramedic staff or health care professionals in attendance. • The ICP is required to make rapid, often complex and critical clinical judgements without direct supervision. • ICPs may be deployed as part of a two person crew from a stretcher equipped ambulance or may operate as a single operator from a purpose designed response vehicle (typically a marked station wagon). • Their scope of practice incorporates that of paramedics, but also includes advanced life support,^r advanced airway management, intraosseous access, external cardiac pacing and synchronized cardio conversion, and advanced clinical management of pain, acute coronary syndrome and cardiac dysrhythmias. (Paramedics Australasia, 2012e) 	<ul style="list-style-type: none"> • Paramedic with post graduate experiences and post graduate study (e.g., Graduate Diploma or Masters)^s † • An internship
Retrieval Paramedic (RP) ^u	<ul style="list-style-type: none"> • A Retrieval Paramedic is an advanced clinical practitioner in paramedicine that provides medical assessment, treatment and care in the out of hospital environment to facilitate the safe and effective transfer of critically unwell patients to a specialist receiving facility. • RPs respond to critically unwell patients based on either initial information from an incident scene or where patients have been assessed by a primary treating clinician e.g. General Practitioner/primary responding ambulance crew or as requiring transfer to a specialist clinical facility. • The role liaises extensively with onsite clinicians and undertakes a specialist clinical assessment and patient management plan to support the safe transfer of these often complex and time critical patients. • The RP is required to make complex and critical clinical judgements often without direct supervision. • An RP may be deployed as part of a two person crew operating in conjunction with a Medical Doctor or may operate as a single practitioner. • These practitioners may operate from either the road ambulance or aeromedical platform settings. • Scope of practice incorporates that of ICPs and also includes advanced clinical assessment (e.g., interpretation of blood tests and x-rays), specialist clinical management to support the safe transfer of critically injured or ill patients to definitive care, rapid sequence intubation and the use of mechanical ventilators and medication administration devices. (Paramedics Australasia, 2012f) 	<ul style="list-style-type: none"> • ICP with post graduate experiences and post graduate study (e.g., Graduate Certificate or Masters)^v • An internship

^q Other vocational titles (non-army or defence) include: mobile intensive care ambulance paramedic, level 5 paramedic, and intensive care paramedic (Paramedics Australasia, 2012e).

^r As defined by the Australian Resuscitation Council in Australia or the Ambulance Service Sector Standard 8156 and New Zealand National Clinical Guidelines in New Zealand (Paramedics Australasia, 2012e).

^s In Australia, an Advanced Diploma of Paramedical Science (Ambulance) is still used by some locations (Paramedics Australasia, 2012e).

[†] In New Zealand, either an industrial training qualification or a post graduate Certificate in Advanced Paramedic Practice is required (Paramedics Australasia, 2012e).

^u Other vocational titles (non-army or defence) include: flight paramedic, air ambulance paramedic, mobile intensive care ambulance flight paramedic, critical care paramedic, and flight ICP (Paramedics Australasia, 2012f).

^v New Zealand currently requires a Postgraduate Certificate in Advanced Paramedic Practice or relevant industrial training program (Paramedics Australasia, 2012f).

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<p>General Care Paramedic (GCP)^w</p>	<ul style="list-style-type: none"> • A GCP is an advanced clinical practitioner in paramedicine that specialises in facilitating a comprehensive medical history/assessment, initiation of relevant treatment and appropriate referral for low and medium acuity patients in a variety of community and clinical settings with an emphasis on managing a patient in their own environment/context. • They attend to both scheduled and unscheduled lower acuity patients where they undertake a thorough clinical assessment of the patient's medical history and condition, order any pathology testing as required, interpret the results and based on a clinical diagnosis institute a short/medium term care plan with appropriate medical referral as required. The GCP has a significant understanding of pathophysiology, pharmacology and disease process. • GCPs are required to make complex and critical clinical judgements in a multidisciplinary, collaborative team environment ensuring involvement of the patients primary treating health care professional where possible and without direct supervision. • This role currently operates predominantly in the community, residential aged care or supported care facilities or on occasions rural/remote hospitals. • Typically this professional is currently deployed as single operator in a purpose equipped vehicle without stretcher capacity or as an expert clinical resource in an ambulance communications facility. • The GCP's Scope of practice incorporates that of paramedics, but also includes specialist patient assessment (e.g., point of care blood testing, ordering x-rays and specimen testing), immunization, urinary catheters, feeding tube insertion, reduction of common dislocations (e.g., finger, anterior shoulder), the specialist management of wounds, infections, dehydration, soft tissue injury, chronic pain as well as palliative care, and referral to general medical practitioners, nurses, palliative care services and community social services. (Paramedics Australasia, 2012g) 	<ul style="list-style-type: none"> • Paramedic with post graduate experiences and post graduate study (e.g., Masters) • An Internship • Achievement of ICP practice^x • GCPs are usually educated via internal development programs delivered by employing service providers
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^w Other vocational titles include: extended care paramedic or community paramedic (Paramedics Australasia, 2012g).

^x In some paramedical services only

APPENDIX B

Table 4 –Identified literature on the practice of paramedic and EMA professionals, interprofessional collaboration, and community paramedicine ^Y

No.	Description	Reference
Review Articles		
1	<p>Aim: To provide a critical review of research on clinical handover between the ambulance service and emergency department (ED) in hospitals. Method: Data base and hand searches were conducted using the keywords ambulance, handover, handoff, emergency department, emergency room, ER, communication, and clinical handover. Data were extracted, summarised and critically assessed to provide evidence of current clinical handover processes. Results: From 252 documents, eight studies fitted the inclusion criteria of clinical handover and the ambulance to ED patient transfer. Three themes were identified in the review: (1) important information may be missed during clinical handover; (2) structured handovers that include both written and verbal components may improve information exchange; (3) multidisciplinary education about the clinical handover process may encourage teamwork, a shared common language and a framework for minimum patient information to be transferred from the ambulance service to the hospital ED. Conclusion: Knowledge gaps exist concerning handover information, consequences of poor handover, transfer of responsibility, staff perception of handovers, staff training and evaluation of recommended strategies to improve clinical handover. Evidence of strategies being implemented and further research is required to examine the ongoing effects of implementing the strategies. According to the authors, barriers to effective clinical handover between the ambulance and the ED include a lack of common language or understanding between health care disciplines, inattention to handover and lack of active listening skills, variable quality and quantity of information exchanged during handover, lack of clear leadership, lack of teamwork skills, busy and complex environment and repetition of handover. They suggest that these findings suggest that effective and high quality handovers in the ED are hindered by barriers that largely centre around interprofessional communication with the result that important clinical information may be missed during the process. Interprofessional communication occurs during the ambulance to ED patient transfer process and the barriers encountered are similar to other hospital multidisciplinary clinical handovers.</p>	<p>Bost, N., Crilly, J., Wallis, M., Patterson, E., & Chaboyer, W. (2010). Clinical handover of patients arriving by ambulance to the emergency department – A literature review. <i>International Emergency Nursing</i>, 18, 210-220.</p>

^Y Please note the studies, programs, and findings presented in this table may originate from jurisdictions with health systems that are significantly different from Ontario's. If there is intent to draw heavily from one or more sources presented in this table, we recommend that you contact the lead author of this review for assistance with evaluating the local applicability.

No.	Description	Reference
2	<p>Introduction. Reducing unnecessary ambulance transports may have operational and economic benefits for emergency medical services (EMS) agencies and receiving emergency departments. However, no consensus exists on the ability of paramedics to accurately and safely identify patients who do not require ambulance transport. Objective. This systematic review and meta-analysis evaluated studies reporting U.S. paramedics' ability to determine medical necessity of ambulance transport. Methods. PubMed, Cumulative Index to Nursing and Allied Health Literature (CINAHL), and Cochrane Library databases were searched using Cochrane Prehospital and Emergency Care Field search terms combined with the Medical Subject Headings (MeSH) terms "triage"; "utilization review"; "health services misuse"; "severity of illness index," and "trauma severity indices." Two reviewers independently evaluated each title to identify relevant studies; each abstract then underwent independent review to identify studies requiring full appraisal. Inclusion criteria were original research; emergency responses; determinations of medical necessity by U.S. paramedics; and a reference standard comparison. The primary outcome measure of interest was the negative predictive value (NPV) of paramedic determinations. For studies reporting sufficient data, agreement between paramedic and reference standard determinations was measured using kappa; sensitivity, specificity, and positive predictive value (PPV) were also calculated. Results. From 9,752 identified titles, 214 abstracts were evaluated, with 61 studies selected for full review. Five studies met the inclusion criteria (interrater reliability, kappa = 0.75). Reference standards included physician opinion (n = 3), hospital admission (n = 1), and a composite of physician opinion and patient clinical circumstances (n = 1). The NPV ranged from 0.610 to 0.997. Results lacked homogeneity across studies; meta-analysis using a random-effects model produced an aggregate NPV of 0.912 (95% confidence interval: 0.707–0.978). Only two studies reported complete 2×2 data: kappa was 0.105 and 0.427; sensitivity was 0.992 and 0.841; specificity was 0.356 and 0.581; and PPV was 0.158 and 0.823. Conclusion. The results of the few studies evaluating U.S. paramedic determinations of medical necessity for ambulance transport vary considerably, and only two studies report complete data. The aggregate NPV of the paramedic determinations is 0.91, with a lower confidence limit of 0.71. These data do not support the practice of paramedics' determining whether patients require ambulance transport. These findings have implications for EMS systems, emergency departments, and third-party payers. Limitations. This study limited its primary analysis to determinations made by paramedics because paramedics have different assessment skills and broader knowledge than EMTs. Incorporating determinations of medical necessity made by nonparamedic personnel in a secondary analysis, however, did not change our overall findings. It also excluded studies from other countries because EMS systems, paramedic education, social expectations, and the medical-legal environments in other countries differ substantially, and this could affect both the decision-making process used by paramedics and any reference standard determinations of medical necessity. Studies of paramedic determinations of medical necessity in a number of specific environments or situations were also excluded (e.g., mass gatherings, trauma centre cases).</p>	<p>Brown, L.H., Hubble, M.W., Cone, D.C., Millin, M., Schwatz, B., Patterson, P.D., et al. (2009). Paramedic Determinations of Medical Necessity: A Meta-Analysis. <i>Pre-Hospital Emergency Care</i>, 13(4), 516-527.</p>

A Rapid Literature Review on the Practice of the Paramedic and EMA Professions

No.	Description	Reference
3	<p>Aims: The aim of the literature review was to identify new and emerging out of hospital emergency care roles and to describe their activity and impact. Background: Demographic changes, increased demands for health services, altered working practices, and health system economic pressures have led to the development of a disparate set of new health care roles. Emergency Care Practitioners (ECPs) tend to be experienced nurses or paramedics working in autonomous but collaborative roles in the out of hospital setting; seeing, treating, releasing (or referring) patients with predominantly minor conditions. The vision for and practice of Paramedic Practitioners (PPs) is essentially similar to that of the ECP, but limited to the paramedic profession. Data sources: MEDLINE, EMBASE and CINAHL databases, and the two search engines Google and Google Scholar were searched for contemporary studies in the identified study area. Review methods: All publications identified through the search were assessed for relevance. Those that discussed new roles were included (n = 34) and empirical studies (n = 14) analysed in detail. Results: ECP and PP roles are having an impact on patient care, including an average 25% reduction in the conveyance rate to hospital, improved interprofessional working, immediacy of treatment and referral, and high patient satisfaction. Limited economic data suggests savings of between £31 (USD 55) and £37 (USD 65) per case when ECPs replace standard ambulance responders. Concerns have been expressed about patient safety, recruitment and training levels, regulatory and role implementation issues. Conclusion: Further work is required to fully understand the patient safety, clinical practice, professional role and financial implications of these new roles.</p>	<p>Cooper, S.J.R. & Grant, J. (2009). New and emerging roles in out of hospital emergency care: A review of the international literature. <i>International Emergency Nursing</i>, 17, 90-98.</p>
4	<p>This article states that recognition of the paramedic "profession" began in 2003, with the introduction of statutory registration and the promotion of graduate entry. The paper explores the published evidence which surrounds paramedic practice in an attempt to identify the skills, training, and professional capacity that paramedics of the future will require. It notes that the role of the paramedic has evolved, moving away from its focus on basic first aid and patient transportation, to encompass higher levels of patient care and transform the prognoses of patients suffering from a wide range of trauma and medical conditions. A systematic analysis was carried out of key reviews and commentaries published between January 1995 and April 2004, and informal discussions with experts and researchers in the field were undertaken. The paper concludes there was little high quality published evidence with which to validate many aspects of current paramedic practice. To keep pace with service developments, paramedic training must embrace the complexities of autonomous practice. Undoubtedly in the short term, paramedics must be taught to appropriately identify and manage a far wider range of commonly occurring conditions, minor illnesses, and trauma. However, in the longer term, and more importantly, paramedics must learn to work together to take ownership of the basic philosophies of their practice, which must have their foundation in valid and reliable research.</p>	<p>Ball, L. (2005). Setting the scene for the paramedic in primary care: A review of the literature. <i>Emergency Medicine Journal</i>, 22(12), 896-900.</p>

Articles in Peer-Reviewed Journals		
5	<p>Study objective: Evidence suggests that active collaboration between hospitals and emergency medical services (EMS) is significantly associated with lower acute myocardial infarction mortality rates; however, the nature of such collaborations is not well understood. The authors seek to characterize views of key hospital staff about collaboration with EMS in the care of patients hospitalized with acute myocardial infarction. Methods: An exploratory analysis of qualitative data previously collected from site visits and detailed interviews with 11 US hospitals that ranked in the top or bottom 5% of performance on 30-day risk standardized acute myocardial infarction mortality rates, using Centers for Medicare & Medicaid Services data from 2005 to 2007. The authors selected all codes from the previous analysis in which EMS was most likely to have been discussed. A multidisciplinary team analyzed the data with the constant comparative method to generate recurrent themes. Results: Both higher- and lower-performing hospitals reported that EMS is critical to the provision of timely care for patients with acute myocardial infarction. However, close collaborative relationships with EMS were more apparent in the higher-performing hospitals, which demonstrated specific investment in and attention to EMS through respect for EMS as valued professionals and colleagues, strong communication and coordination with EMS and active engagement of EMS in hospital acute myocardial infarction quality improvement efforts. Conclusion: Hospital staff from higher-performing hospitals described broad, multifaceted strategies to support collaboration with EMS in providing acute myocardial infarction care. The association of these strategies with hospital performance should be tested in a larger representative study. Limitations: Examples of study limitations indicated by the study authors include: study findings cannot be generalized to all hospitals and EMS agencies; this study does not discuss the perspective of EMS providers; and the study findings are qualitative and should be further evaluated quantitatively to determine their relationship with risk-standardized mortality.</p>	<p>Landman, A.B., Spatz, E.S., Cherlin, E.J., Krumholz, H.M., Bradley, E.H., & Currie, L.A. (2012). Hospital collaboration with emergency medical services in the care of patients with acute myocardial infarction: Perspectives from key hospital staff. <i>Annals of Emergency Medicine</i>, article in press.</p>
6	<p>Introduction: Few emergency medical services (EMS) interventions in New Mexico have been assessed for efficacy, potential harm, or potential benefit. There is concern that many interventions added over the years may be outdated, harmful, or ineffective in the EMS setting. A formal process for reviewing the state EMS scope of practice using literature review and expert consensus is discussed. In Phase One of the project, interventions in the New Mexico EMS scope of practice were prioritized for further review by surveying a national cadre of EMS experts to evaluate EMS interventions using a utilitarian harm/benefit metric. Methods: An electronic survey based on the 2010 New Mexico EMS Scope of Practice statute was administered from March through June, 2011. A national cadre of 104 respondents was identified. Respondents were either State EMS medical directors or EMS fellowship directors. Respondents were asked to rate the potential harm and the potential benefit of specific EMS interventions on a 5-point ordinal scale. Median harm and benefit scores were calculated. Results: A total of 88 completed surveys were received. Twenty-two (22) highest-priority interventions (those with a harm/benefit median score ratio of >1) were identified. Seven additional second-priority interventions were also identified. These interventions will be advanced for formal literature review and expert consensus. Conclusions: The New Mexico EMS Interventions Project offers a novel model for assessing a prehospital scope of practice.</p>	<p>Munk, M-D., Fullerton, L., Banks, L., Morley, S., McDaniels, R. Castle, S., et al. (2012). Assessing EMS scope of practice for utility and risk: The New Mexico EMS interventions assessment project, Phase I results. <i>Prehospital and Disaster Medicine</i>, 27(5), 452-457.</p>

7	<p>Aims: Improvement of clinical handover is fundamental to meet the challenges of patient safety. The primary aim of this interview study is to explore healthcare professionals' attitudes and experiences with critical episodes in patient handover in order to elucidate factors that impact on handover from ambulance to hospitals and within and between hospitals. The secondary aim is to identify possible solutions to optimise handovers, defined as "situations where the professional responsibility for some or all aspects of a patient's diagnosis, treatment or care is transferred to another person on a temporary or permanent basis". Methods: The authors conducted 47 semi-structured single-person interviews in a large university hospital in the Capital Region in Denmark in 2008 and 2009 to obtain a comprehensive picture of clinicians' perceptions of self-experienced critical episodes in handovers. They included different types of handover processes that take place within several specialties. A total of 23 nurses, three nurse assistants, 13 physicians, five paramedics, two orderlies, and one radiographer from different departments and units were interviewed. Results: The authors found eight central factors to have an impact on patient safety in handover situations: communication, information, organisation, infrastructure, professionalism, responsibility, team awareness, and culture. With respect to organization, paramedics had diverse experiences about communicating with the receiving parties in handovers. They sometimes had a definite impression that not all important information they delivered was passed on, written down, received, or understood due to insufficient organisational structures. Conclusions: The eight factors identified indicate that handovers are complex situations. The organisation did not see patient handover as a critical safety point of hospitalisation, revealing that the safety culture in regard to handover was immature. Work was done in silos and many of the handover barriers were seen to be related to the fact that only few had a full picture of a patient's complete pathway.</p>	<p>Siemsen, I. M. D., Madsen, M. D., Pedersen, L. F., Michaelsen, L., Pedersen, A. V., Andersen, H. B., Østergaard, D. (2012). Factors that impact on the safety of patient handovers: An interview study. <i>Scandinavian Journal of Public Health</i>, 40(5), 439-448.</p>
8	<p>This article discusses the differences between the main models of international emergency medical service (EMS) systems: the Anglo-American and the Franco-German models. The Anglo-American model is based around "scoop and run" philosophy. The aim of this model is to rapidly bring patients to the hospital with less pre-hospital interventions. The model is usually allied with public safety services such as police or fire departments rather than public health services and hospitals. The Franco-German model of EMS delivery is based on the "stay and stabilize" philosophy. The motive of this model is to bring the hospital to patients. This model is usually run by physicians and they have extensive scope of practice with very advanced technology. The article further explains that the current international EMS systems have varied features and practices but they all resemble the main models of EMS systems in one way or another. The aim of international EMS systems is to adapt a model that meets the local needs and targets with diverse cultural, political and financial factors of each individual community. Advocating for a single system that fits all is a slippery approach to take in a rapidly changing world. It concludes by noting that in 2004 Oman introduced an EMS system based on the Anglo-American model under the auspices of the Royal Oman Police. The model is designed to respond to trauma cases resulting from endemic Road Traffic Crashes, with pre-hospital care provided by all-advanced life support trained emergency medical technicians.</p>	<p>Al-Shaqsi, S. (2010). Models of international emergency medical service systems. <i>Oman Medical Journal</i>, 25(4), 320-323.</p>
9	<p>This paper identifies that there is a growing private ambulance sector, notwithstanding legislative prohibitions on the provision of ambulance services that exist in nearly all Australian State and Territories. Notwithstanding these prohibitions, there appears to be no intention to prosecute private ambulance providers and, indeed, governments probably appreciate that these services fill a need and reduce the demand for non-emergency services on state run ambulance services. The paper defines what is meant by ambulance services and describes what is prohibited in each Australian jurisdiction and then argue that, to ensure that the providers of ambulance services continue to deliver a quality service to the public, there should be a legally sanctioned system to register paramedics and the use of various titles associated with the pre-hospital sector must be restricted.</p>	<p>Eburn, M., & Bendall, J.C. (2010). The provision of Ambulance Services in Australia: a legal argument for the national registration of paramedics. <i>Journal of Emergency Primary Health Care</i>, 8(4).</p>

10	<p>Background Clinical handover between paramedics and the trauma team is undertaken in a time-pressured environment. Paramedics are often required to handover complex problems to a multitude of staff. There is evidence that information loss occurs at this transition. The aims of this project were to (1) develop a minimum dataset to assist paramedics provide handover; (2) identify attributes of effective and ineffective handover; (3) determine the feasibility of advanced data transmission; and (4) identify how to best display data in trauma bays. Methods Qualitative study of paramedics and trauma team members in Australia. A thematic analysis was undertaken using grounded theory. Results Ten paramedics and 17 trauma team members were interviewed. A minimum dataset modified on an existing template was developed to include fields required by the trauma team to inform immediate treatment; there was general consensus from both paramedics and the trauma team that the concept of using a template to deliver the minimum dataset was good and that the data elements in the MIST² (Mechanism of injury/illness, Injuries [sustained or suspected], Signs, including observations and monitoring, Treatment given) template were appropriate. Respondents stated that an effective handover was one which was delivered succinctly and in a structured manner, and contained only vital data necessary to direct immediate treatment. Experience was a key factor in being able to give a good handover. The presence of appropriate personnel to receive the handover, coupled with their ability to actively listen were important factors in determining a good handover for paramedics. Conversely, three paramedics, five doctors and three nurses made the point that an ineffective handover was one in which perceived extraneous information was communicated and when interruptions occurred. While three paramedics felt that dismissive attitudes by trauma team members impacted on their ability to handover effectively and that they often had to repeat themselves because of inattention, three trauma team members stated that they became dismissive when paramedics 'rambled on'. Advanced transmission of data to the receiving hospital was widely supported. While computers carried by paramedics were capable of exporting data to the receiving hospital, barriers such as time constraints, workflow issues and infection control issues impeded the ability to do this in the current environment. Discussion There is support for the adoption and further evaluation of a handover template. It can provide valuable structure to the face-to-face handover, and experience from other specialties suggests it can reduce information loss. Strategies to enable information to be transmitted in advance of the patients' arrival must address concerns voiced by paramedics. Limitations: One limitation of this study is the fact that paramedics with experience handing over the care of trauma patients were purposefully selected for this study and it may be that less experienced paramedics would identify different barriers to transmitting information to trauma team members (although most trauma patients are transferred by intensive care road and air paramedics).</p>	<p>Evans, S. M., Murray, A., Patrick, I., Fitzgerald, M., Smith, S., & Cameron, P. (2010a). Clinical handover in the trauma setting: A qualitative study of paramedics and trauma team members. <i>Quality and Safety in Health Care</i>, 19, e57.</p>
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² The MIST template was developed as a tool to assist paramedics to handover information in a systematic manner. It prompts paramedics to communicate to the trauma team the mechanism of injury, injuries sustained, signs and symptoms, and treatment provided (Evans et al. 2010a).

11	<p>Introduction: The aim of effective clinical handover is seamless transfer of information between care providers. Handover between paramedics and the trauma team provides challenges in ensuring that information loss does not occur. Handover is often time pressured and paramedics' clinical notes are often delayed in reaching the trauma team. Documentation by trauma team members must be accurate. This study evaluated information loss and discordance as patients were transferred from the scene of an incident to the Trauma Centre. Methods: Twenty-five trauma patients presenting by ambulance to a tertiary Emergency and Trauma Centre were randomly selected. Audiotaped (pre-hospital) and videotaped (in-hospital) handover was compared with written documentation. Results: In the pre-hospital setting 171/228 (75%) of data items handed over by paramedics to the trauma team were documented and in the in-hospital handover 335/498 (67%) of information was documented. Information least likely to be documented by trauma team members (1) in the pre-hospital setting related to treatment provided and (2) in the in-hospital setting related to signs and symptoms. While 79% of information was subsequently documented by paramedics, 9% (n = 59) of information was not documented either by trauma team members or paramedics and constitutes information loss. Information handed over was not congruent with documentation on seven occasions. Discrepancies included a patient's allergy status and sites of injury (n = 2). Demographic details were most likely to be documented but not handed over by paramedics. Conclusion: By documenting where deficits in handover occur the authors can identify points of vulnerability and strategies to capture this information. Limitations: There are a number of limitations in this study, for example: this is a relatively small study confined to trauma patients and the authors cannot be sure that findings can be generalized to other Emergency and Trauma Centres, Emergency Departments or patient groups and as with any observational study, it may be that behaviour by paramedics of trauma team members was modified as a result of being observed.</p>	<p>Evans, S.M., Murray, A., Patrick, I., Fitzgerald, M., Smith S., Andrianopolous, N., & Cameron, P. (2010b). Assessing clinical handover between paramedics and the trauma team. <i>Injury: International Journal of the Care of the Injured</i>, 41, 460-464.</p>
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12	<p>Background: Over the past century the Australian paramedic discipline has changed dramatically; moving from its origins of an ambulance driver to its current practitioner role and integral member of the Australian health care system. However, at present the Australian paramedic discipline is not considered a full profession. The issue of whether the discipline currently believes it is a profession, and if it wants to achieve full professional status will be examined. Objectives: This paper has two objectives - to examine if the Australian paramedic membership views the discipline as a profession, and if paramedic community wants to be considered a profession within Australia. Methods: A convenience sample was used for this study that included participants who attended the inaugural National Association Paramedic Academics in September, 2008. An investigation of professionalization attitudes were investigated using a paper-based self-report questionnaire. Findings: A total of 63 experts participated in the study. Forty (63.5%) of the participants were male and 23 (36.5%) were female, with 44% of the participants (n=28) being between 35-44 years of age. The majority of the participants reported that the paramedic discipline would benefit from being recognised as a full profession (M=4.62, SD=.771) within Australia and that the higher education sector has an important part to play in this process (4.49, SD=0.74). The majority felt that national registration would not occur within the next 2 years (M=2.52, SD=1.12). A significant difference (p=0.001) between participants from Victoria, New Zealand and Queensland about whether the paramedic discipline would achieve national registration produced was noted. Conclusions: The findings from the survey suggest two points in relation to professionalism of the paramedic discipline within Australia. Firstly, the paramedic discipline is not a profession and secondly, the paramedic discipline wants to become recognised as a profession. Other professional factors such as national registration, autonomy and the development of a unique body of knowledge require further investigation. This study notes that at present, two traits are not demonstrated by the Australian paramedic sector: professional authority; and unique body of knowledge. It is argued these are not demonstrated, given the absence of national registration, regulation, accreditation of paramedics or national curricula standards for paramedic education programs.</p>	<p>Williams, B., Onsman, A., & Brown, T. (2010). Is the Australian Paramedic Discipline a Full Profession? <i>Journal of Emergency Primary Health Care</i>, 8(1).</p>
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13	<p>Introduction: Little is known about how effectively information is transferred from emergency medical services (EMS) personnel to clinicians in the emergency department receiving the patient. Information about prehospital events and findings can help ensure expedient and appropriate care. The trauma literature describes 16 prehospital data points that affect outcome and therefore should be included in the EMS report when applicable. Objective: To determine the degree to which information presented in the EMS trauma patient handover is degraded. Methods: At a level I trauma center, patients meeting criteria for the highest level of trauma team activation ("full trauma") were enrolled. As part of routine performance improvement, the physician leadership of the trauma program watched all available video-recorded full trauma responses, checking off whether the data points appropriate to the case were verbally "transmitted" by the EMS provider. Two EMS physicians then each independently reviewed the trauma team's chart notes for 50% of the sample (and a randomly selected 15% of the charts to assess agreement) and checked off whether the same elements were documented ("received") by the trauma team. The focus was on data elements that were "transmitted" but not "received." Results: In 96 patient handovers, a total of 473 elements were transmitted, of which 329 were received (69.6%). On the average chart, 72.9% of the transmitted items were received (95% confidence interval 69.0%–76.8%). The most commonly transmitted data elements were mechanism of injury (94 times), anatomic location of injury (81), and age (67). Prehospital hypotension was received in only 10 of the 28 times it was transmitted; prehospital Glasgow Coma Scale [GCS] score 10 of 22 times; and pulse rate 13 of 49 times. Conclusions: Even in the controlled setting of a single-patient handover with direct verbal contact between EMS providers and in-hospital clinicians, only 72.9% of the key prehospital data points that were transmitted by the EMS personnel were documented by the receiving hospital staff. Elements such as prehospital hypotension, GCS score, and other prehospital vital signs were often not recorded. Methods of "transmitting" and "receiving" data in trauma as well as all other patients need further scrutiny. Limitations: One of the main limitations of this study was the unexpected 30% rate of videotape capture for full trauma evaluations, resulting in a smaller sample size than anticipated.^{aa} The EMS physicians extracting data from the charts also did not have a process to resolve discrepancies (e.g., whether to give credit for partial information such as 'over 70 mph' or 'high speed' instead of the actual crash speed). The authors also noted that it was also possible that the trauma team obtained information from a source other than the handover or knew information they did not record in the chart, resulting in an inaccurate estimate of the degree of information loss.</p>	<p>Carter, A. J. E., Davis, K. A., Evans, L. V., & Cone, D. C. (2009). Information loss in emergency medical services handover off trauma patients. <i>Prehospital Emergency Care</i>, 13, 280-285.</p>
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^{aa} This was due to a combination of factors, including failure to activate the videotaping system and delayed activation of the videotaping system (after the EMS handover) had been completed. However, given that the demographics of the study handovers were consistent with the general "full trauma" population seen at the institution, the authors felt that the data presented was a representative sample.

14	<p>Background: A scheme to train paramedics to undertake a greater role in the care of older people following a call for an emergency ambulance was developed in a large city in the UK. Objectives: To assess the cost effectiveness of the paramedic practitioner (PP) scheme compared with usual emergency care. Methods: A cluster randomised controlled trial was undertaken of PP compared with usual care. Weeks were allocated to the study group at random to the PP scheme either being active (intervention) or inactive (control). Resource use data were collected from routine sources, and from patient-completed questionnaires for events up to 28 days. EQ-5D data were also collected at 28 days. Results: Whereas the intervention group received more PP contact time, it reduced the proportion of emergency department (ED) attendances (53.3% vs 84.0%) and time in the ED (126.6 vs 211.3 minutes). There was also some evidence of increased use of health services in the days following the incident for patients in the intervention group. Overall, total costs in the intervention group were £140 lower when routine data were considered ($p=0.63$). When the costs and QALY were considered simultaneously, PP had a greater than 95% chance of being cost effective at £20 000 per QALY. Conclusion: Several changes in resource use are associated with the use of PP. Given these economic results in tandem with the clinical, operational and patient-related benefits, the wider implementation and evaluation of similar schemes should be considered.</p>	<p>Dixon, S., Mason, S., Knowles, E., Colwell, B., Wardrope, J., Snooks, H., et al. (2009). Is it cost effective to introduce paramedic practitioners for older people to the ambulance service? Results of a cluster randomized control trial. <i>Emergency Medical Journal</i>, 26, 446-451.</p>
15	<p>Aim: This longitudinal study was designed to address four research questions and the hypothesis that adults living in a rural Nova Scotia island community receiving primary health care and emergency services from a team that included an on-site nurse practitioner (NP) and paramedics and an off-site family physician would, over time, demonstrate evidence of improved psychosocial adjustment and less expenditure of health care resources. Background: In Canada, there is a growing awareness and commitment to addressing the challenges of providing primary health care services in rural areas. The model described in this article was developed because concerned community leaders lobbied for improved access to primary health care services. In response, Emergency Health Services (EHS) decided better use could be made of paramedics who, though stationed on the Islands around the clock, were responding to only one emergency call every third day. Following an education program, paramedics began to assess and manage simple wounds, administer tetanus injections and flu immunizations and perform home assessments. Resident response was positive; nevertheless, they continued their advocacy efforts for a broader range of services. Thus EHS introduced the NP-paramedic-physician model of care and commissioned an independent evaluation. A literature review supported the role of NPs in primary health care and a potential role for paramedics. No studies were found that evaluated the combination of NPs, paramedics and physicians as providers of primary health care. Methods: Structured questionnaires, individual and group interviews with patients, health and social service care providers and administrators and community members were used to describe and evaluate the impact of the model of care over the three years of the study. Findings: The innovative model of care resulted in decreased cost, increased access, a high level of acceptance and satisfaction and effective collaboration among care providers. Participants reported positive collaboration among the core health team as well as with the rest of the multidisciplinary health care team in the district. Challenges related to collaboration between the NP and paramedics identified in earlier years were not mentioned in interviews conducted at the conclusion of the project. Rather, participants reported effective collaboration and cooperation between NPs and paramedics. Organizational structures to support the innovative model of primary health care were identified.</p>	<p>Matin-Misener, R., Downe-Wamboldt, B., Cain, E., & Girouard, M. (2009). Cost effectiveness and outcomes of a nurse practitioner-paramedic-family physician model of care: The Long and Brier Islands study. <i>Primary Health Care Research and Development</i>, 10(1), 14-25.</p>

16	<p>Over the last one hundred and twenty years, the Australian paramedic sector has changed dramatically; influenced and informed by a range of social, health, economic, professional, and political forces. However, there has been little reflection of those changes in either the perception of the discipline as a profession or the manner in which its membership is trained, socialised, and educated. This paper explores the links between professionalization and education in the paramedic field. Paramedics are currently at best seen as a 'semi-profession' and a great deal of discussion about whether the discipline actually wants to achieve full professional status exists. Comparisons will be made with the professions of nursing and physiotherapy, outlining how and why they progressed from a semi-professional status to a fully recognised profession, culminating in a discussion about which characteristics the paramedics discipline as yet lacks. A review of common professional traits suggests three areas where the discipline falls short: 1) the delineation of its professional compass, especially in relation to extant recognised cognate (and competitive) professions, 2) National registration and regulation resulting in professional self-control and accreditation, and 3) Higher Education and the development of a unique body of professional knowledge. Finally it will be argued that the recognition and addressing of the gaps by the relevant policymakers, regulators, employers and academics will lead to the formulation of strategies that are most likely to result in professional status for paramedics in Australia.</p>	<p>Williams, B., Onsmann, A., & Brown, T. (2009). From stretcher-bearer to paramedic: the Australian paramedics' move towards professionalisation. <i>Journal of Emergency Primary Health Care</i>, 7(4).</p>
17	<p>Aim: To evaluate a new service development whereby a nurse and a paramedic working in partnership attended non-urgent emergency calls. Background: The demand for emergency ambulance services both nationally (in the UK) and internationally has been steadily increasing. A large proportion of calls made to the emergency ambulance service are classified as non-urgent. An alternative response to these calls may release the standard ambulance service to attend more urgent calls. A pilot project was initiated in order to provide an alternative response to non-urgent emergency calls in an Ambulance Trust in England with support from the local Primary Care Trust. This alternative response comprised a district nurse or an emergency nurse practitioner dispatched with a paramedic to visit low-priority emergency calls. The pilot service was trialled during a 15-week period in 2003–2004. Methods: This paper evaluates the cost effectiveness of the pilot service by examining both the resource use and the outcomes of the service. Findings: It was found that introducing this service to the current provision would increase the overall cost to the ambulance services. However, a reduction in conveyance rate to the hospital was observed as people could be treated on-scene. A reduction in conveyance rate to the hospital would lead to reduced admissions to accident and emergency departments and subsequent hospitalization. This paper provides an indication that further development of this type of service has the potential to be cost effective, if the wider health care economy is considered, as the cost savings made in secondary care could more than balance the costs to the Ambulance Services in providing such a service.</p>	<p>Widiatmoko, D., Machen, I., Dickinson, A., Williams J., & Kendall, S. (2008). Developing a new response to non-urgent emergency calls: Evaluation of a nurse and paramedic partnership intervention. <i>Primary Health Care Research and Development</i>, 9, 183-190.</p>

A Rapid Literature Review on the Practice of the Paramedic and EMA Professions

18	<p>Objective: To identify collaborative instances and hindrances and to produce a model of collaborative practice. Methods: A 12-month (2005–2006) mixed methods clinical case study was carried out in a large UK ambulance trust. Collaboration was measured through direct observational ratings of communication skills, teamwork and leadership with 24 multi-professional emergency care practitioners (ECPs), interviews with 45 ECPs and stakeholders, and an audit of 611 patients. Results: Using a generic qualitative approach, observational records and interviews showed that ECPs' numerous links with other professions were influenced by three major themes as follows. (i) The ECP role: for example, "restricted transport codes" of communication, focus on reducing admissions, frustrations about patient tasking and conflicting views about leadership and team work. (ii) Education and training: drivers for multi-professional clinically focussed graduate level education, requirements for skill development in minor injury units (MIUs) and general practice, and the need for clinical supervision/mentorship. (iii) Cultural perspectives: a "crew room" blue collar view of interprofessional working versus emerging professional white collar views, power and communication conflicts, and a lack of understanding of the ECPs' role. The quantitative findings are reported elsewhere. Conclusions: The final model of collaborative practice suggests that ECPs are having an impact on patient care, but that improvements can be made. The study authors recommend the appointment of ECP clinical leads, degree level clinically focussed multi-professional education, communication skills training, clinical supervision and multi-professional ECP appointments.</p>	<p>Cooper, S., O'Carroll, J., Jenkin, A., & Badger, B. (2007). Collaborative practices in unscheduled emergency care: Role and impact of the emergency care practitioner – qualitative and summative findings. <i>Emergency Medicine Journal</i>, 24, 625-629.</p>
19	<p>Aims: To explore patients' and staffs' perceptions of a pilot service which dispatched a nurse and paramedic to low-priority ambulance calls. Methods: Patients' opinions of both pilot and standard service groups were obtained through qualitative questionnaire data and individual interviews. Staffs' perceptions were explored via two focus groups. Questionnaires were sent to a convenience sample of 128 patients attended by the pilot service and 128 patients receiving the standard service. Initially 19 questionnaire participants agreed to be interviewed. Focus group participants (n = 11) included nurses and paramedics involved in the pilot service. Results: Sixty-four questionnaires were returned and 11 interviews were conducted. Patients receiving the pilot service were enthusiastic about opportunities for care to be provided in their home. Involvement in the pilot service was a positive experience for staff. They felt confident in managing calls effectively because of their combined knowledge and skills, and believed that the quality of patient care had been improved. They also experienced increased job satisfaction and skills development. Conclusion: Both patients and staff expressed positive views about the pilot service. Patients appreciated being treated at home and staff believed that working together provided more appropriate care for patients and enhanced interprofessional development.</p>	<p>Machen, I., Dickinson, A., Williams, J., Widiatmoko, D., & Kendall, S. (2007). Nurses and paramedics in partnership: Perceptions of a new response to low-priority ambulance calls. <i>Accident and Emergency Nursing</i>, 15, 185-192.</p>

20	<p>Background: An emergency care practitioner (ECP) is a generic practitioner drawn mainly from paramedic and nursing backgrounds. ECPs receive formal training and extended clinical skills to equip them to work as an integral part of the healthcare team working within and across traditional boundaries of emergency and unplanned care. Currently, ECPs are working in different healthcare settings in the UK. Objectives: (1) To evaluate appropriateness, satisfaction and cost of ECPs compared with the usual service available in the same healthcare setting, (2) to increase understanding of what effect, if any, ECPs are having on delivery of health services locally and (3) to evaluate whether ECP working yields cost savings. Methods: Using a mixed-methods approach, data were collected quantitatively and qualitatively from three different types of health provider setting where ECPs are operational, in three areas of England. Data were collected by sending two questionnaires to each patient eligible to be seen by an ECP, at three and 28 days after presentation; telephone interviews were conducted with a sample of staff that included ECPs, other health professionals and stakeholders (e.g., managers) in each of the three settings; and routine data were analysed to provide a perspective on costs. Results: After adjusting for age, sex, presenting complaint and service model, some differences in the processes of care between the ECPs and the usual providers in the three settings were observed. Overall, ECPs carried out fewer investigations, provided more treatments and were more likely to discharge patients home than the usual providers. Patients were satisfied with the care received from ECPs, and this was consistent across the three different settings. It was found that ECPs are working in different settings across traditional professional boundaries and are having an impact on reconfiguring how those services are delivered locally. Costs information (based on one site only) indicated that ECP care may be cost effective in that model of ECP working. Conclusion: Care provided by ECPs appears to reduce the need for subsequent referral to other emergency and unscheduled care services in a large proportion of cases. The authors found no evidence that the care provided by an ECP was less appropriate than the care by the usual providers for the same type of health problem. Limitations: The authors identified several limitation of this study. They note that it relied on self-reported use of health services at 28 days for their appropriateness of care outcomes. The authors also noted that the method of recruitment of patients may have resulted in selectivity, making it possible for some biases in the comparisons reported. They also warn that the economic findings should be regarded with caution as the savings of approximately £291 (US\$566) per patient seen by an ECP in service one were based on limited data in one operational setting and may not be generalizable. They also note that within a 999 ECP model, the finding may be affected by whether or not the practitioner was formerly employed as a nurse, as a paramedic or from another background.</p>	<p>Mason, S., O'Keefe, C., Coleman, P., Edlin, R., & Nicholl, J. (2007). Effectiveness of emergency care practitioners working within existing emergency models of care. <i>Emergency Medicine Journal</i>, 24, 239-243.</p>
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21	<p>Introduction: This article explores how community engagement by paramedics in an expanded scope role contributes to both primary health care and to an overall improved emergency response capacity in rural communities. Understanding how expanded scope paramedics (ESP) can strengthen community healthcare collaborations is an important need in rural areas where low workforce numbers necessitate innovation. Methods: Four examples of Australian rural ESP roles were studied in Tasmania, New South Wales, South Australia and Victoria to gather information on consistent elements that could inform a paramedic expanded scope model. Qualitative data were collected from semi-structured interviews with key stakeholders and organisational documents. Thematic analysis within and across cases found community engagement was a key element in the varied roles. This article relies heavily on data from the Victorian and Tasmanian case studies because community engagement was a particularly strong aspect of these cases Results: The ESP in the case studies increased interactions between ambulance services and rural communities with an overall benefit to health care through: increasing community response capacity; linking communities more closely to ambulance services; and increasing health promotion and illness prevention work at the community level. Leadership, management and communication skills are important for paramedics to successfully undertake expanded scope roles. Conclusion: ESP in rural locations can improve health care beyond direct clinical skill by active community engagement that expands the capacity of other community members and strengthens links between services and communities. As health services look to gain maximum efficiency from the health workforce, understanding the intensification of effort that can be gained from practitioner and community coalitions provides important future directions.</p>	<p>Stirling, C.M., O'Meara, P.O., Pedler, D., Tourle, V., & Walker, J. (2007). Engaging rural communities in health care through a paramedic expanded scope of practice. <i>Rural and Remote Health</i>, 7 (839).</p>
22	<p>Background: The emergency care practitioner (ECP) is a generic practitioner who combines extended nursing and paramedic skills. The "new" role emerged out of changing workforce initiatives intended to improve staff career opportunities in the National Health Service and ensure that patients' health needs are assessed appropriately. Objective: To describe the development of ECP Schemes in 17 sites, identify criteria contributing to a successful operational framework, analyse routinely collected data and provide a preliminary estimate of costs. Methods: There were three methods used: (a) a quantitative survey, comprising a questionnaire to project leaders in 17 sites, and analysis of data collected routinely; (b) qualitative interpretation based on telephone interviews in six sites; and (c) an economic costing study. Results: Of 17 sites, 14 (82.5%) responded to the questionnaire. Most ECPs (77.4%) had trained as paramedics. Skills and competencies have been extended through educational programmes, training, and assessment. Routine data indicate that 54% of patient contacts with the ECP service did not require a referral to another health professional or use of emergency transport. In a subset of six sites, factors contributing to a successful operational framework were strategic visions crossing traditional organisational boundaries and appropriately skilled workforce integrating flexibly with existing services. Issues across all schemes were patient safety, appropriate clinical governance, and supervision and workforce issues. On the data available, the mean cost per ECP patient contact is £24.00, which is less than an ED contact of £55.00. Conclusion: Indications are that the ECP schemes are moving forward in line with original objectives and could be having a significant impact on the emergency services workload. Limitations: The studies took place within tight deadlines, which restricted more detailed data collection and analysis. Only 50% of the sites surveyed were operational. Patient contact data were also incomplete and limited in content. The authors note that this was primarily because data submission by each ECP scheme was voluntary, and data collection was not designed for research purposes, but to monitor activity in each site.</p>	<p>Mason, S., Coleman, P., O'Keefe, C., Ratcliffe, J., & Nicholl, J. (2006). The evolution of the emergency care practitioner role in England: Experiences and Impact. <i>Emergency Medicine Journal</i>, 23, 435-439.</p>

23	<p>Introduction: A high number of emergency (999) calls are made for older people who fall, with many patients not subsequently conveyed to hospital. Ambulance crews do not generally have protocols or training to leave people at home, and systems for referral are rare. The quality and safety of current practice is explored in this study, in which for the first time, the short-term outcomes of older people left at home by emergency ambulance crews after a fall are described. Results will inform the development of care for this population. Methods: Emergency ambulance data in London were analysed for patterns of attendance and call outcomes in 2003–4. All older people who were attended by emergency ambulance staff after a fall in September and October 2003, within three London areas, were identified. Those who were not conveyed to hospital were followed up; healthcare contacts and deaths within the following 2 weeks were identified. Results: During 2003–4, 8% of all 999 calls in London were for older people who had fallen (n = 60,064), with 40% not then conveyed to hospital. Of 2151 emergency calls attended in the study areas during September and October 2003, 534 were for people aged ≥65 who had fallen. Of these, 194 (36.3%) were left at home. 86 (49%) people made healthcare contacts within the 2-week follow-up period, with 83 (47%) people calling 999 again at least once. There was an increased risk of death (standard mortality ratio 5.4) and of hospital admission (4.7) compared with the general population of the same age in London. Comment: The rate of subsequent emergency healthcare contacts and increased risk of death and hospitalisation for older people who fall and who are left at home after a 999 call are alarming. Further research is needed to explore appropriate models for delivery of care for this vulnerable group.</p>	<p>Snooks, H.A., Halter, M., Close, J.C.T., Cheung, W-Y., Moore, F., & Roberts, S.E. (2006). Emergency care of older people who fall: A missed opportunity. <i>Quality and Safety in Health Care</i>, 15, 390-392.</p>
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Grey Literature		
24	<p>This news posting on the Paramedic's Australia websites states that PA New Zealand prepared a formal submission to the recent review of the Health Practitioners Competence Assurance (HPCA) Act 2003. The review commenced on August 31 2012 with the release of a discussion document published by the Ministry of Health seeking views from stakeholders. The scope of the review was agreed by Cabinet, with the aim of ensuring that the Act retains the ability to safeguard health practitioners' competence in a changing health system. The PA Submission to the review discussed the key issues relevant to paramedics in New Zealand highlighting the important role that paramedics play in the patient journey and the commencement of medical treatment in the out-of-hospital environment. There is a link to the full submission, which can be accessed at: http://www.paramedics.org.au/content/2012/10/PANZ-Submission-2012-Review-of-HPCAA.pdf.</p>	<p>Cotton, A. (2012). PA Submission to the New Zealand Ministry of Health. Paramedics Australasia Website. Last accessed December 2012.</p>
25	<p>The Health and Care Professions Council (HCPC) is a regulatory body, set up to protect the public. It maintains a Register of health and care professionals who meet the HCPC's standards for training, professional skills, behaviour and health. Currently, the HCPC regulates 16 professions, including operating department practitioners and paramedics. All of these professions have at least one professional title that is protected by law, including the term 'paramedic'. This means, for example, that anyone using the title 'paramedic' must be registered with HCPC. If a registrant does not meet HCPC standards, the organization can take action which might include stopping a person from practising. For further information, see HCPC, About us.</p> <p>This review also used information from on the following webpages of the HCPC website:</p> <ul style="list-style-type: none"> Standards of Proficiency: Paramedics (HCPC, 2012a) http://www.hpc-uk.org/assets/documents/1000051CStandards_of_Proficiency_Paramedics.pdf This document sets out the standards of proficiency for Paramedics. It is also expected that registrants abide by the standards of conduct, performance and ethics outlined by HCPC in separate documents. These standards are effective from November 1st, 2007 and were amended in August 2012 to reflect the name change to the HCPC. Approved Programmes (HCPC, 2012b) http://www.hpc-uk.org/education/programmes/ This webpage highlights HCPC's role in approving programmes within the UK which lead to eligibility to apply for the HCPC Register. HCPC, Professions: Paramedics (HCPC, 2012c) http://www.hpc-uk.org/aboutregistration/professions/index.asp?id=10#profDetails According to the HCPC, a paramedic is defined as providing specialist care and treatment to patients who are either acutely ill or injured. They can administer a range of drugs and carry out certain surgical techniques. (See HCPC, Professions). 	<p>Health & Care Professions Council Website. (2012). About us. London, UK: Health & Care Professions Council. Last Accessed December 2012.</p>
26	<p>This webpage outlines the vision and mission statement of the International Roundtable on Community Paramedicine (IRCP). The page defines community paramedicine as a model of care whereby paramedics apply their training and skills in "non-traditional" community-based environments (outside the usual emergency response/transport model). The community paramedic may practice within an "expanded scope" (applying specialized skills/protocols beyond that which he/she was originally trained for), or "expanded role" (working in non-traditional roles using existing skills).</p>	<p>International Roundtable on Community Paramedicine [IRCP] (2012). IRCP Vision and Mission Statements. Last accessed December 2012.</p>

27	This page from the National Registry of Emergency Medical Technicians identifies the five levels of national certification in the US: First Responder, Basic, Intermediate/85, Intermediate/99, and Paramedic. Exam questions (items) are written by national experts in EMS including state officials, educators, employers, and EMS physicians. Certification through the NREMT indicates that a standard level of competency has been met. Certification means an individual has demonstrated entry level competency, but does not authorize a person to work. Emergency medical professionals are required to obtain a state license to work.	National Registry of Emergency Medical Technicians [NREMT] website (2012a). <u>Fast Facts</u> . Last accessed November 2012.
28	This page from the National Registry of Emergency Medical Technicians (NREMT) explains how the NREMT relates to the provision of EMS services. The site explains that EMS professionals may be educated as First Responders (requires about 40 hours of training), EMT-Basics (requires about 110 hours of training), EMT-Intermediates (requires 200-400 hours of training) or Paramedics (requires 1,000 or more hours of training). It also notes that state EMS Offices issue licenses to EMS professionals and ambulance service providers, along with a variety of other tasks. Currently 46 states require their EMS professionals to be certified by the National Registry of EMTs in order to obtain a license to practice as an EMS professional in their state. Some states require their EMS professionals to maintain certification with the NREMT as part of the continued license; others have their own license renewal process. All EMS professionals are required to complete continuing education.	National Registry of Emergency Medical Technicians [NREMT] website (2012b). <u>Integration of NREMT and EMS</u> . Last accessed November 2012.
29	This webpage from the National Registry of Emergency Medical Technicians (NREMT) describes the nature of the EMS profession and provides general information on the recommended amount of education required to reach each level. The recommendations are as follows: Emergency Medical Responder (EMR), 58 hours of education; Emergency Medical Technician (EMT), 150 hours of education; Advanced Emergency Medical Technician (AEMT), 150 additional hours of education; Paramedic, 1,200 hours of accredited education. The webpage also notes that to be an AEMT requires a person to first be an EMT, then take the advanced education course, and that some states combine EMT and AEMT education in 300 hour courses.	National Registry of Emergency Medical Technicians [NREMT] website (2012c). <u>Become involved as an EMS professional</u> . Last accessed November 2012.
30	This page from the National Registry of Emergency Medical Technicians (NREMT) outlines the differences between certification and licensure. It notes that although the general public continues to use the terms interchangeably, there are important functional distinctions between the two concepts. Certification is: (1) a voluntary process; (2) provided by a private organization; and (3) used for the purpose of providing public information on those individuals who have successfully completed a certification process (usually entailing successful completion of educational and testing requirements) and demonstrated their ability to perform their profession competently. Licensure refers to the state's grant of legal authority, pursuant to the state's police powers, to practice a profession within a designated scope of practice. Under the licensure system, states define, by statute, the tasks and function or scope of practice of a profession and provide that these tasks may be legally performed only by those who are licensed.	National Registry of Emergency Medical Technicians [NREMT] website (2012d). <u>Certification v. licensure</u> . Last accessed November 2012.

31	<p>This booklet highlights the range of opportunities that today's ambulance service has to offer. It reviews the NHS as a workplace, provides insight into some of the key roles inside the ambulance service, outlines a career framework, and specifies the opportunities available within the ambulance service as well as the training or education required to work there. The following roles are highlighted:</p> <p><u>Emergency care assistants (ECAs)</u> - often work alongside a paramedic answering 999 calls. Under the direct supervision of the paramedic, ECA's carry out essential emergency care, such as controlling severe bleeding, treating wounds and fractures and looking after patients with possible spinal injuries.</p> <p><u>Paramedics</u> - One of the first healthcare professionals to arrive at a range of emergency and non-emergency situations. Often the senior member of a two-person ambulance crew, with an emergency care assistant to assist. However, a paramedic may also work on their own, using a motorbike, emergency-response car or even a bicycle to reach your patients. When they arrive at the scene of an emergency, they will assess the patient's condition and take potentially life-saving decisions about any treatment needed before the patient is transferred to hospital. A paramedic will start giving the treatment, with the assistance of the emergency care assistant. In non-life-threatening situations, they will also have to use their professional judgement to make key clinical decisions.</p> <p><u>Senior Paramedic</u> - A paramedic with additional skills and qualifications that would allow them to carry out more treatments and take on more responsibility. They work in one of a wide variety of settings such as GP surgeries, minor injury units, walk-in clinics and hospital emergency departments. They may also see patients in nursing or residential homes, schools or prisons.</p>	<p>NHS Careers. (2012). Careers in the ambulance service. Bristol, UK: NHS Careers. Last accessed November 2012.</p>
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32	<p>Paramedics Australasia (PA; formerly the Australian College of Ambulance Professionals, ACAP) is the national professional association representing practitioners who provide paramedic services to the community. Paramedic practitioners are best known for their involvement in the delivery of out of hospital emergency medical care through their work with various Ambulance Service organisations throughout Australia. However, paramedics work in many environments including community, industrial, military and university settings as well as on humanitarian and relief operations. PA provides a national platform for the development and promulgation of policies and service standards that will enhance the quality of patient care. PA does this by representing the interests of practitioners on matters such as the professional standards of education, training, and continuing; the professional development of paramedic practitioners; The funding, standards, quality and accreditation of emergency service providers; and the registration and associated regulatory framework of paramedic practice.</p> <p>This review used information from several web pages on the Paramedics Australasia website. These include:</p> <ul style="list-style-type: none"> • What is a paramedic? (Paramedics Australasia, 2012b) http://www.paramedics.org.au/paramedics/what-is-a-paramedic/ • Competency standards (Paramedics Australasia, 2012c) http://www.paramedics.org.au/paramedics/competency-standards/ • Paramedics (Paramedics Australasia, 2012d) http://www.paramedics.org.au/paramedics/what-is-a-paramedic/paramedic/ • Intensive care paramedic (ICP) (Paramedics Australasia, 2012e) http://www.paramedics.org.au/paramedics/what-is-a-paramedic/intensive-care-paramedic-icp/ • Retrieval paramedic (RP) (Paramedics Australasia, 2012f) http://www.paramedics.org.au/paramedics/what-is-a-paramedic/retrieval-paramedic-rp/ • General care paramedic (GCP) (Paramedics Australasia, 2012g) http://www.paramedics.org.au/paramedics/what-is-a-paramedic/general-care-paramedic-gcp/ 	Paramedics Australasia Website. (2012). <u>Who we are</u> . Last accessed November 2012.
33	<p>The National Health Service (NHS) is divided into two sections: primary and secondary care. Primary care is the first point of contact for most people and is delivered by a wide range of independent contractors, including GPs, dentists, pharmacists and optometrists. Secondary care is known as acute healthcare and can be either elective care or emergency care. The NHS is structured into various 'Trusts' including primary care trusts, acute trusts, care trusts, mental health trusts and ambulance trusts. Emergency vehicles are provided by the NHS ambulance services trusts. There are 11 ambulance trusts in England. <u>The Scottish, Welsh and Northern Ireland ambulance services provide cover for those countries.</u></p>	National Health Service Website. (2011). <u>The NHS structure</u> . England, UK: National Health Service. Last accessed November 2012.

34	<p>Paramedics Australasia (PA) is the peak professional body representing paramedics in Australia, New Zealand and the Pacific region. The organisation has an important role in setting standards of practice for the profession, and this role includes the development of paramedic competencies that inform the design of paramedic education programs. These competency standards represent the first consensus document that describes essential paramedic attributes. These have been developed to support course accreditation and regulatory frameworks to enable paramedics to provide safe and effective health care for the communities they serve. These standards were the result of a comprehensive review of contemporary standards adopted by international paramedic professional associations as well as those developed by medical, nursing and allied health disciplines and in countries with similar practice settings to those found in Australia and New Zealand. The review included an assessment of competency standards developed by paramedics in jurisdictions with similar practice and operational systems, including the National Occupational Competency Profile developed by the Paramedic Association of Canada and the Benchmark statement: Health care programme (Paramedic) for paramedics in the UK. The review of extant standards and the development of this first version of paramedic competency standards for paramedics in Australia and New Zealand was undertaken by an expert panel of educators and clinicians. The competencies comprising the Australasian Competency Standards for Paramedics are organised within the domains of professional practice, clinical practice, and professional knowledge.</p>	<p>Paramedics Australasia. (2011). Australasian Competency Standards for Paramedics. Last accessed November 21, 2012</p>
35	<p>This article, from the website of the Journal of Emergency Medical Services, outlines the history of community paramedicine in the United States. It explains that paramedicine is still evolving in the context of the larger health-care profession, which is now also in transition with health-care reform. Since the 1980s, Emergency Medical Service (EMS) medical directors, system administrators and paramedics have acted to expand the scope of services EMS provides and, in some cases, the scope of practice as well. It notes that there have been two distinct clinical directions for this expanded role on both ends of the patient acuity spectrum. The first direction involves the advancement of paramedics' clinical skills toward those of critical care nursing, for the care and transport of critical patients from one hospital to another. The second direction for expansion of the paramedic role is at the opposite end of the patient acuity continuum, where EMS increasingly cares for patients with non-emergency episodic medical problems. Internationally, community paramedic is widely used in Canada and Australia, mainly in rural EMS systems. In the last four years, England has reorganized its EMS and primary care systems to include the new paramedic practitioner who focuses on community health. In the United States, the health-care reform legislation signed into law by President Barack Obama in March authorized funding for four regional pilot projects supporting innovations for delivering coordinated, accountable regional systems of emergency care. The goal was to get the patient to the right care, delivered by the right care provider, at the right time, resulting in the best outcomes and most efficient use of the region's health-care resources. Although the U.S. Department of Health and Human Services has not yet developed the specifications and requirements for these pilots, they represent an opportunity for communities interested in incorporating innovations in the EMS care of the non-acute patient into these proposals for the regional pilots.</p>	<p>Krumpertman, K. (2010). History of Community Paramedicine. Last accessed December 2012.</p>

36	<p>Soon after the Health Professional Council (HPC) [now the Health and Care Professional Council, HCPC] was formed and the Orders in Council were approved by the Privy Council, it was required that the HPC had to liaise with a professional bodies for all the professions that the registrar was responsible for. At that time the only profession not to have professional body was the Ambulance profession. Two colleagues from Essex Ambulance Service undertook the necessary work to set up a professional body in order to ensure that the profession would be represented and fulfill the self regulation responsibilities for standards and education. The name of British Paramedic Association (BPA) was agreed at an inaugural meeting held at AMBEX in 2001. From this point the development of the BPA began, and has now taken the name the College of Paramedics (CoP).</p> <p>This review used information from several web pages on the CoP website. This includes:</p> <ul style="list-style-type: none"> • CoP - About Us (CoP, 2009a) https://www.collegeofparamedics.co.uk/about_us/ • Becoming a paramedic (CoP, 2009b) https://www.collegeofparamedics.co.uk/about_us/public_information/how_to_become_a_paramedic/ <p>Historically, entry into the paramedic profession was achieved by working through various roles within a specific NHS ambulance service. Prospective paramedics often began by working in the non-emergency Patient Transport Service, before moving into accident and emergency work by qualifying as an ambulance technician. Then, following a period of experience in the technician role, candidates would sit entry exams and then complete a training course to become a qualified paramedic. With the increasing number of University courses leading to paramedic qualification, this is no longer the case. Those who wish to, can join a University Degree straight from school that leads to registration with the HPC [HCPC] as a paramedic.</p>	College of Paramedics Website. (2009). <u>About Us</u> . Last accessed November 15, 2012.
37	<p>This report examines various aspects of safety and quality in healthcare in Australia, including topics such as patient identification, medication safety, and clinical handover. The chapter on clinical handover notes that potential barriers to the delivery of effective handover may include: lack of a shared understanding or practice, lack of interdisciplinary handover and care, busyness, hierarchical hospital culture, interruptions and distractions, minimal patient and family involvement, and lack of training and research.</p>	Australian Commission on Safety and Quality in Healthcare [ACSQHC] (2008). <u>Windows into Safety and Quality in Health Care</u> . Last accessed December 2012.
38	<p>This article discusses how combined team training can contribute to improved team performance among paramedics, EMTs, and first responders (e.g., firefighters, police officers). It noted that research had shown there were three main areas that distinguish a high-performance team from other teams: (1) interpositional knowledge gained by team members cross-training on each other's jobs, allowing the team to predict, anticipate, and coordinate more efficiently and effectively; (2) team communication, including verbal and non-verbal communication skills; the use of timely or informational communication, and brevity, completeness and clarity (3) shared mental models, which allow individuals to develop similar visions of what needs to happen to accomplish a team's goal. The article also offers some general guidelines for developing a CTT program.</p>	Tomek, S. (2008) <u>Combined Team Training</u> . EMS World. Last accessed December 2012.

39	This report describes the National Highway Traffic Safety Administration's National EMS Scope of Practice Model. The National EMS Scope of Practice Model supports a system of EMS personnel licensure that is common in other allied health professions and is a guide for States in developing their Scope of Practice legislation, rules, and regulation. States following the National EMS Scope of Practice Model as closely as possible will increase the consistency of the nomenclature and competencies of EMS personnel nationwide, facilitate reciprocity, improve professional mobility and enhance the name recognition and public understanding of EMS. The National EMS Scope of Practice Model defines and describes four levels of EMS licensure: Emergency Medical Responder (EMR), Emergency Medical Technician (EMT), Advanced EMT (AEMT), and Paramedic. Each level represents a unique role, set of skills, and knowledge base.	National Highway Traffic Safety Administration (NHTSA, 2007). National EMS Scope of Practice Model . Washington: US Department of Transportation.
40	This commentary raises concerns about the safety and effectiveness of emergency care practitioners. It explains that the role of the emergency care practitioner (ECP) had been expanding rapidly over the past three years in the UK. The rationale of this development was to have prehospital practitioners, from nursing and paramedic backgrounds, who could treat and discharge patients, and avoid taking them to the emergency department. This would allow more convenient and timely care for the patient, without the need for transport to hospital for less serious conditions. The political reason for the development was to help reduce ambulance response times, by decreasing ambulance turnaround times and to reduce waits in emergency departments by decreasing attendances. The commentary concludes with saying that as new roles are developed, it is important to ensure that safety and quality of healthcare are evaluated, as well as achieving changes and targets in other processes.	Cooke, M. (2006). Emergency Care Practitioners: A new safe effective role? <i>Quality and Safety in Health Care</i> , 15, 387.
41	This report from the Australian Centre for Prehospital Research explores the potential for expanded paramedic healthcare roles for Queensland, Australia. The report notes that in recent years, a review of health care delivery models, and the development of generic health care worker roles, has been supported by health care reform analysts and in various state and federal health policy documents. Expanded scope programs such as Nurse Practitioners (NPs) have been shown to improve healthcare delivery, providing people in rural and remote communities greater access to routine procedures, advice and follow up care. There is currently a shortage of health professionals across Australia and its greatest impact is felt in rural and remote areas. The evidence from recent evaluations of NPs suggests this model has improved health outcomes and has been widely accepted, with a high level of patient satisfaction. Paramedics serving in some rural and remote communities have engaged in various expanded practice activities in an unofficial capacity and have demonstrated interest in formally developing these roles. There is potential to further extend the capacity of health services by exploiting this opportunity to formalize and expand paramedic expanded practice roles, and by developing generic health worker models. A review of paramedic expanded practice programs trialled in the USA, Canada, and the UK and of subsequent evaluation studies was conducted. The diversity of these programs partly reflects the purpose for which they were designed and have been tailor made to meet local community needs. The successes, failures, and challenges worked through in developing these programs are presented. The report states that many of these programs have been demonstrated to improve community health outcomes while remaining economically feasible, and have achieved community acceptance and high levels of satisfaction.	Raven, S., Tippet, V., Ferguson, J.G., & Smith, S. (2006). <i>An exploration of expanded paramedic healthcare roles for Queensland</i> . Queensland: Department of Emergency Services. Last accessed December 2012

42	<p>The Medicines and Healthcare products Regulatory Agency (MHRA) is the government agency which is responsible for ensuring that medicines and medical devices work, and are acceptably safe. The MHRA is an executive agency of the Department of Health.</p> <p>Under medicines legislation, registered paramedics can administer a range of parenteral medicines on their own initiative for the immediate, necessary treatment of sick or injured persons without the usual requirement for a prescription or directions of a prescriber. This webpage also provides a list of medicines which may only be administered by ambulance paramedics on their own initiative for immediate, necessary treatment of sick or injured persons.</p>	<p>Medicines and Healthcare Products Regulatory Agency Website. (2005). <u>Paramedics: Exemptions</u>. Last accessed November 20, 2012.</p>
43	<p>The Community Healthcare and Emergency Cooperative website defines the role of Community Paramedic. It states that the Community Paramedic will respond to identified health needs in underserved communities, ultimately improving the quality of life and health of rural and remote citizens and visitors. Roles will include outreach; wellness; health screening assessments; health teaching; providing immunizations; disease management, including a thorough understanding of monitoring diabetes, congestive heart failure and other high cost diseases and the methods and medications used to treat them; recognition of mental health issues and referral into the existing mental health care system; wound care; safety programs; and, functioning as physician extenders in rural clinics and hospitals in communities that have them.</p>	<p>Community Healthcare and Emergency Co-operative. (nd). <u>Community Paramedic</u>. Last accessed December 2012.</p>
44	<p>Ambulance services provide healthcare in emergency and non-emergency settings and so there are a number of different careers available. This website outlines the range of careers in the ambulance service. These include ambulance care assistant/patient transport service (PTS) drivers, emergency care assistants, emergency medical dispatchers/call handlers, paramedics, PTS and handlers, and senior paramedics.</p> <p>This review used information from several web pages on the NHS Careers website. These include:</p> <ul style="list-style-type: none"> • Emergency care assistant (NHS Careers , n.d.b) http://www.nhscareers.nhs.uk/explore-by-career/ambulance-service-team/careers-in-the-ambulance-service-team/emergency-care-assistant/ • Paramedic (NHS Careers , n.d.c) http://www.nhscareers.nhs.uk/explore-by-career/ambulance-service-team/careers-in-the-ambulance-service-team/paramedic/ • Senior paramedic (NHS Careers , n.d.d) http://www.nhscareers.nhs.uk/explore-by-career/ambulance-service-team/careers-in-the-ambulance-service-team/senior-paramedic/ 	<p>NHS Careers. (n.da). <u>Careers in the ambulance service team</u>. Last accessed November 15, 2012.</p>

45	<p>This document from the website of the International Roundtable on Community Paramedicine provides an overview of the Long and Brier community paramedicine initiative. The abstract states that in a time of fiscal health restraints where resources, both human and financial, are stretched to the limit, an innovative design for the delivery of primary health care to two island communities was underway. Community paramedicine, while not a new idea, had never before been used in collaboration with a nurse practitioner and an off-site physician. This is the delivery model currently being used on two isolated, island communities in Nova Scotia known as Long and Brier. At the time of this report, there had been a 23% decrease in Emergency department visits (for the years 2002 and 2003) from Islanders since this delivery model has been implemented. The document further notes that with the addition of the nurse practitioner's scope of practice, came an expansion of the types of services available to the Island residents. This enabled paramedics to complete more complex care such as wound care, take part in flu clinics and become involved in community preventive education sessions, e.g. fall prevention in seniors.</p>	<p>Misner, D. (nd). <u>Community Paramedicine: Part of an Integrated Health Care System</u>. Last accessed December 2012.</p>
46	<p>The Council of Ambulance Authorities (CAA) is an organization that provides leadership for the provision of ambulance services in Australia, New Zealand and Papua New Guinea. The CAA accredits entry-level paramedic education programs (for more information see: http://caa.net.au/en/education). Membership of the CAA includes the principal providers of ambulance services in each State and Territory of Australia (i.e., <u>The Australian Capital Territory Ambulance Service, Ambulance Service of New South Wales, Ambulance Tasmania, Ambulance Victoria, Queensland Ambulance Service, South Australia Ambulance Service Inc., St John Ambulance Australia (Northern Territory) Inc. and St John Ambulance Australia (Western Australia) Inc.</u>) and in New Zealand (<u>St John New Zealand, and Wellington Free Ambulance</u>).</p> <p>Other pages from this website were included in this review, including:</p> <ul style="list-style-type: none"> • Accreditation of Paramedic Education Programs (The Council of Ambulance Authorities Website , n.d.b) http://caa.net.au/en/education 	<p>The Council of Ambulance Authorities Website. (n.da). <u>About us</u>. Last Accessed December 6, 2012.</p>



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